

SOUTH CAROLINA FORESTRY COMMISSION



ANNUAL REPORT 1997-1998

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STATE DOCUMENTS

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STATE COMMISSION OF FORESTRY

Members of the Commission

Lawrence J. Bloomer, Chairman, Easley

G. Edward Muckenfuss, Vice Chairman, Summerville

Joe P. Simpson, Lancaster

George E. Callaway, Manning

Joel R. Thrift, Westminster

Sara Lee Simons, Florence

David B. Smith, Conway

Mitchell S. Scott, Allendale

Dr. Constantine Curris, Clemson University, Clemson

Administration

J. Hugh Ryan, State Forester and Secretary to the Commission

Wray E. Freeman, Deputy State Forester

Dean Carson, Technical Assistant to the State Forester

Judy J. Weston, Executive Assistant to the State Forester

Tim Adams, Division Director, Field Operations Support

Joe M. Richbourg, Division Director, Administration

MISSION

The mission of the Forestry Commission is to protect, promote, enhance, and nurture the forest lands of South Carolina in a manner consistent with achieving the greatest good for its citizens.

The Commission will utilize Total Quality Management concepts in meeting its responsibilities.

Responsibilities extend to all forest lands, both rural and urban, and to all associated forest values and amenities including, but not limited to, timber, wildlife, water quality, air quality, soil protection, recreation, and aesthetics.

The Forestry Commission shall have general and specific responsibilities for the promulgation and enforcement of laws and regulations related to protection of the forest and its associated values.

The Commission shall be responsible for promoting and developing the appropriate technologies to accomplish its objectives, and for the development and promulgation of Best Management Practice Guidelines for South Carolina's forest land.

FIELD OPERATIONS SUPPORT

The Field Operations Support Division provides operational and technical staff direction to the Forestry Commission field organization in each of the major program areas of forest management, nurseries and tree improvement, forest insects and diseases, forest fire protection, and environmental management. Additionally, it provides oversight to the equipment and communication needs of the agency including forest technology and operations of the central shop.

FOREST MANAGEMENT

The Forest Management Section assists South Carolina citizens with management and development of the forest resources of the state. Programs include Woodland Management Assistance, Reforestation Assistance, Forestry Services, Forest Products Utilization and Marketing Assistance, Resource Conservation and Development, Urban Forestry, and Forest Inventory. These programs assist owners in growing more timber, aid industries in more efficient utilization of the timber resource, and foster conservation and multiple use of the forest resource.

There are 12.4 million acres of commercial forestland in South Carolina. According to the 1993 U.S. Forest Service Survey, 72% of the land is owned by farmers and miscellaneous private owners. Forest industry owns approximately 19% with 9% in public ownership.

The Forest Management programs are designed to assist the non-industrial private landowner with multiple use forest management.

The Forest Management Section also has oversight responsibilities for the management of Sand Hills, Cassatt, and Manchester State Forests. Technical assistance is also provided to other state agency lands upon request.

FOREST MANAGEMENT ASSISTANCE

Professional foresters from the Forestry Commission provide forest management advice and assistance to landowners. The land is examined and a written forest management plan is prepared. Recommendations for management may include such silvicultural practices as forest protection, reforestation, harvesting, prescribed burning, wildlife habitat improvement, and recreation. This year 4,266 management plans were prepared for 225,145 acres. Where practical, the landowner is referred to consulting or industrial foresters to assist in carrying out management recommendations. This year 641 cases were referred to consulting foresters and 151 to industrial foresters.

COST-SHARE PROGRAMS

Forest Renewal Program (FRP) - State

In 1982 the program was funded for the first time by a \$100,000 state appropriation. This permitted an assessment of \$400,000 from forest industry, and created a \$500,000 Forest Renewal Fund. The funding was doubled effective July 1, 1996 increasing the program to \$1,000,000.

Forest Incentives Program (FIP) - Federal

FIP funding for fiscal year 1997-98 was \$679,140.

Agricultural Conservation Program (ACP) - Federal

The Agricultural Conservation Program was not continued with the 1996 Farm Bill. The figures below refer to completion of previously obligated funds.

Conservation Reserve Program (CRP) - Federal

The Program began with crop year 1986 and was renewed with the passage of the 1990 Farm Bill. Sixteen signups have been held. This year 5,735 acres were planted. The CRP program has been renewed again with the 1996 Farm Bill.

Statewide Accomplishments All Cost-Share Programs

Reforestation and Timber Stand Improvement

Program	No. of Landowners	Acres Planted	Natural Regeneration	TSI Acres	Cost-Share Payments
FRP	289	8,838	0	1,989	\$782,909
FIP	290	8,225	47	1,186	\$451,375
ACP	36	476	0	128	\$28,278
CRP	172	5,735	0	0	\$221,954
SIP	32	832	0	132	\$50,897
Total	819	24,106	47	3,435	\$1,535,413

SEEDLING SURVIVAL

Survival checks were made on 10 percent of plantings using a row count or tenth acre plot method for determining survival. A weighted analysis involving all survival checks was used to determine the statewide survival of 83%.

Forest Management Assistance 1997 – 1998

County	Non Cost-Share		Cost-Share		Forest Stewardship	
	Exams	Acres	Exams	Acres	Exams	Acres
Abbeville	51	6,949	15	654	1	105
Aiken	70	5,910	67	3,356	1	135
Allendale	13	704	146	9,332	0	0
Anderson	26	2,053	47	3,521	0	0
Bamberg	7	339	148	6,711	0	0
Barnwell	34	2,482	131	3,832	5	2,952
Beaufort	2	17	3	223	0	0
Berkeley	27	1,399	29	1,636	6	1,084
Calhoun	6	343	50	1,972	2	280
Upper Charleston	4	366	1	25	0	0
Lower Charleston	29	2,248	13	750	2	212
Cherokee	13	1,331	5	230	1	2,053
Chester	20	932	76	4,258	1	61
Chesterfield	18	1,275	69	2,888	1	67
Clarendon	38	1,216	109	3,242	2	88
Colleton	25	2,310	111	6,125	3	529
Darlington	41	1,839	100	2,999	5	628
Dillon	10	260	23	892	2	218
Dorchester	17	1,032	35	1,667	4	215
Edgefield	26	1,235	77	3,131	0	0
Fairfield	35	3,013	39	2,581	5	1,494
Florence	34	1,542	51	834	1	47
Georgetown	17	814	53	2,115	1	179
Greenville	32	1,744	27	1,129	1	12
Greenwood	22	2,804	13	599	1	88
Hampton	34	2,275	88	3,314	2	339
Horry	37	5,497	168	3,739	1	115
Jasper	12	307	23	768	2	261
Kershaw	13	1,007	36	1,559	2	425
Lancaster	31	1,989	24	1,146	1	267
Laurens	17	941	90	4,877	1	43
Lee	3	212	45	1,493	0	0
Lexington	38	1,500	63	1,957	2	2,192
McCormick	13	1,115	9	385	0	0
Marion	12	851	54	1,123	0	0
Marlboro	31	1,707	67	1,890	0	0
Newberry	34	4,036	15	587	2	71
Oconee	60	6,633	7	158	1	13
Orangeburg	55	4,394	276	10,866	8	1,881
Pickens	31	1,904	10	495	1	30
Richland	45	2,962	22	730	5	572
Saluda	29	1,126	65	2,804	0	0
Spartanburg	11	260	11	445	1	35
Sumter	12	414	35	1,354	1	12
Union	4	66	22	1,085	3	461
Williamsburg	32	1,607	313	11,814	2	321
York	46	3,538	7	222	1	1,650
State Totals	1,217	88,498	2,888	117,512	81	19,135

FOREST SERVICES

Through this program the Commission provides assistance to landowners and other state agency lands with afforestation, reforestation, and maximization of production from their woodlands. The landowner is charged the cost of all services performed.

These services were available to landowners during the year:

Firebreak Plowing - performed by Forestry Commission employees using agency equipment for \$75 for the 1st hour and \$50 for each additional hour.

Prescribed Burning - performed by Forestry Commission employees using agency equipment for \$12 per acre for the 1st 50 acres, \$10 per acre for the 2nd 50 acres and \$8/acre for all over 100 acres. Firebreak plowing costs are not included. Minimum fee \$100.00.

Prescribed Burning Standby - an agency tractor and employee on standby at burning site while landowner performed burning under an approved plan for \$45 for the 1st hour and \$20 for each additional hour. Minimum fee \$100.00.

Equipment Rental Program - agency owned tree planters, bedding plows and drum choppers made available to private landowners at rates from \$4 to \$15 per acre.

Timber Marking - performed by Forestry Commission employees at the rate of \$5 per thousand board feet and \$2.00 per cord.

Service	# Tracts	Units of Measure	Receipts Received FY 97-98
Firebreak Plowing	399	2,811 miles	\$ 81,850
Prescribed Burning	84	5,114 acres	\$ 55,096
Prescribed Burning Standby	51	2,719 acres	\$6,860
Equipment Rental	60	1,004 acres	\$7,711
Water Bar Construction	15	199 bars	\$10,750
Timber Marking	26	8,828 cords	
		1,322,749 bd.ft.	\$21,821
Total Dollars	635		\$184,088

URBAN FORESTRY

Urban forestry seeks to improve the quality of life in populated areas by providing direct technical assistance to communities and by working through partnerships with other organizations to protect and improve the management of urban tree resources. Clean air, clean water, improved aesthetics, increased property value, noise buffering, energy conservation, and public safety are some of the products of these endeavors.

Urban and Community Forestry Grant Program

The Urban and Community Forestry Grant Program is a national program funded by Congress through the U. S. Forest Service. South Carolina received \$149,015 in base funding to provide technical assistance and training. Pass-through grants in the amount of \$190,000 were provided to county and local governments, non-profit organizations, and educational institutions to develop long-lasting urban forestry programs in their communities.

Partnership Development and Educational Programs

Through the technical assistance and grant funds, the urban forestry program strives to develop partnerships with a variety of organizations and units of local government. Often these partnerships result in educational programs about

FOREST SERVICES

Corrected page: Services table figures -- Firebreak Plowing, Prescribed Burning, Total Dollars

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<u>Service</u>	<u># Tracts</u>	<u>Units of Measure</u>	<u>Receipts Received FY 97-98</u>
Firebreak Plowing	399	1,499 miles	\$ 75,550
Prescribed Burning	84	4,229 acres	\$ 45,888
Prescribed Burning Standby	51	2,719 acres	\$6,860
Equipment Rental	60	1,004 acres	\$7,711
Water Bar Construction	15	199 bars	\$10,750
Timber Marking	26	8,828 cords	
		1,322,749 bd.ft.	\$21,821
Total Dollars	635		\$168,580

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Partnership Development and Educational Programs

Through the technical assistance and grant funds, the urban forestry program strives to develop partnerships with a variety of organizations and units of local government. Often these partnerships result in educational programs about

the benefits and importance of urban forest resources. During FY98, the Forestry Commission developed partnerships with 147 organizations and presented 96 educational sessions to 5,436 participants.

Technical Assistance

Three full-time urban foresters provide technical assistance on a regional basis for the Piedmont, Pee Dee and Coastal regions of the state. Other Commission foresters provide urban forestry assistance in their respective areas on a time available basis. A full-time grants administrator works in the Columbia office along with the Urban Forestry Coordinator for statewide program management.

Types of Technical Assistance	Non-Grant Through Forestry Commission Technical Assistance	Grant Program Accomplishments by Grantees
Program Development/Expansion	105	NA
Project Management	15	NA
Urban Forest Cultural Practices	894	NA
<u>Trees Inventoried</u>		
Miles	0	773
Total Trees Inventoried(#)	0	12,682
<u>Trees Planted</u>		
Seedlings/Whips/Saplings(#)	3,746	417
Street/Park Size(#)	1	405
Trees Maintained(#)	32	1,119
Local Ordinances Passed/Revised	0	0
Demonstration Planting Projects	2	27

Tree City USA

Sponsored by the National Arbor Day Foundation, Tree City USA is administered in South Carolina by the SC Forestry Commission. The program seeks to stimulate and promote the management of urban trees by recognizing towns and cities which meet the following criteria: (1) establishment of a city tree ordinance, (2) expenditure of at least two dollars per capita on tree care and planting, (3) a legally constituted tree board, and (4) observance of Arbor Day by a mayoral proclamation and official ceremony. South Carolina ranks 29th nationally with 27 towns recognized as Tree City USA.

FOREST STEWARDSHIP

The Forest Stewardship Program is a cooperative effort between the USDA Forest Service, Forestry Commission and natural resource agencies and organizations in South Carolina to encourage the long-term stewardship of non-industrial private forest lands. Landowners are provided technical assistance by having a multiple resource management plan developed for their property addressing their management objectives.

July 1, 1997 to June 30, 1998, natural resource professionals completed 81 plans on 19,201 acres.

Stewardship Incentive Program

Once landowners have an approved Stewardship Management Plan, they may be eligible to participate in the Stewardship Incentive Program (SIP). This is a federal cost-share assistance program to provide financial incentives to private landowners to carry out some of the management practices outlined in their Stewardship Management Plan.

SIP Accomplishments from July 1, 1997 to June 30, 1998

		No. of Landowners	Acres Treated	Cost-Share Earned
SIP 2	Reforestation	26	832	\$44,915
SIP 3	Forest Improvement	6	132	\$5,982
SIP 8	Wildlife Habitat	24	427	\$24,724
Total		56	1,391	\$75,621

FOREST INVENTORY AND HEALTH MONITORING

The Forestry Commission has made a commitment in partnership with the U.S. Forest Service to begin the Southern Annual Forest Inventory System and Forest Health Monitoring Program. A coordinator for the program began in April and three two-person field crews were hired in May with field work on health monitoring beginning in June. After implementation, the inventory system will provide continuously updated information on the forest resources of the state.

MANCHESTER STATE FOREST

Manchester State Forest, located south of Wedgefield in Sumter County is currently comprised of approximately 23,745 acres, 4,413 acres of which was recently acquired through purchase or quit claim deed in five separate transactions. From 1939 to 1955, Manchester was leased by the State of South Carolina from the federal government and managed by the South Carolina Forestry Commission. The State received title to the property on June 28, 1955.

Receipts

Receipts For Operating Budget:

Timber Sales - Pine - 738,883 bd.ft.,and 1,688 cords	
Hardwood - 20,141 bd. ft. and 2,300 cords	\$408,785.45
Pinestraw Sales	\$ 32,538.56
Land Leases - (includes crop payments)	\$ 32,734.50
Use Permit Sales	<u>\$ 8,615.10</u>
Total	\$482,673.51

Note: 25% of all forest receipts paid to Sumter County - \$120,668.37

Timber sales were concentrated on thinnings in overstocked stands and conversion of older slash pine stands to longleaf plantations.

Silvicultural Practices

Site preparation by burning, V-blade and various combinations of the aforementioned practices was completed on 49 acres. These areas included stands which were previously understocked and therefore clearcut. Three hundred twenty-one acres of old agricultural fields were also planted making the total areas artificially regenerated 370 acres.

The following species and number of trees were planted:

Improved Coastal Loblolly Pine	142,000
Containerized Longleaf Pine	169,000
<u>Bareroot Longleaf Pine</u>	<u>27,000</u>
Total Trees Planted	338,000

A total of 140 acres was prescribed burned for site preparation, wildlife habitat enhancement, hardwood control and litter reduction. Wet weather was the limiting factor in the completion of the proposed schedule of burning.

Forest Protection

No wildfires occurred on Manchester this year. Firebreaks were maintained on those areas that were either high risk or high value.

Recreation/Education

Recreational use of the forest continues to escalate over previous years. Hunting, fishing, horseback riding, motorcycle/ATV riding and mountain biking continue to be favorite activities. Work has begun to GPS, remap and relocate, if necessary, all trails on Manchester.

Use permits were implemented and became mandatory beginning in January, 1997 for all trail riding to include horseback riding, biking, motorcycle/ATV riding and use of the rifle and pistol range. Receipts from the sale of permits exceeded \$8,600.

The rifle and pistol range continues to be popular with a total of 1,211 free use permits issued between July 1, 1996 and January 1, 1997. After January 1, 1997 permits were sold for use of the range with a total of 668 visits. The range is staffed by one temporary employee and approximately 40 volunteers.

Three (3) educational programs were conducted with the assistance of the forest staff and area personnel with approximately 65 individuals involved. Of this 65, two were visitors from Chile. One training session was also held at Manchester for SCFC: Advanced Fire Investigation for law enforcement officers.

Eight special use permits were issued for organized events, with approximately 2,600 participants.

Wildlife Management

Approximately 16,000 acres of the forest are presently included in the Wildlife Management Area Program through a cooperative agreement between the Department of Natural Resources and the South Carolina Forestry Commission. Technical assistance with game food plot establishment, monitoring deer herd dynamics, tracking various nongame and game species, pond management, and law enforcement on the forest is provided through interagency cooperation.

Planting and maintenance was conducted on 194 acres of wildlife areas. Corn, sunflowers, sorghum, browntop millet, quail mix, wheat, rye, clover, vetch and bicolor were utilized to diversify the food supply. Several of the plantings were donated by the Department of Natural Resources and planted by the Manchester and DNR personnel.

Cluster sites of the red cockaded woodpecker continue to be monitored along with scouting for new cavity and start trees in cooperation with biologists from the neighboring Poinsett Gunnery Range.

SAND HILLS STATE FOREST

Sand Hills State Forest covers approximately 46,000 acres with 45,000 acres in Chesterfield County and 1,000 acres in Darlington County. The forest was operated under a use agreement with the federal government from 1939 until 1991. In July of 1991, title to Sand Hills State Forest was transferred to the South Carolina Forestry Commission.

Receipts

Since 1967, Sand Hills has been totally self-supporting. The only appropriated funds coming to Sand Hills are earmarked for the development of the H. Cooper Black Memorial Field Trial and Recreation Area.

Receipts For Operating Budget

Timber Sales (Pine, Sawtimber, Pulpwood)	\$758,671.70
Pinestraw	\$ 55,994.96
Land Lease Payments	\$ 2,609.00
WMA Payments	\$ 12,000.00
<u>User Fees</u>	<u>\$ 4,939.00</u>
Total	\$834,214.66

Note: 25% of all receipts are paid to Chesterfield and Darlington County School System. – (F.Y. 97/98 \$208,553)

Silvicultural Practices

Site preparation for planting longleaf pine, by disking and V-blading was completed on 1,149 acres. These areas were in slash pine that had stagnated. One hundred twelve acres were site prepared using Arsenal to eliminate the scrub hardwood competition. Bareroot longleaf seedlings were planted on 1,011 acres on the Forest and containerized Longleaf seedlings were planted on 145 acres on Carolina Sandhills National Wildlife Refuge. One hundred acres of longleaf plantations were treated with Class A bio-solids from the town of Cheraw. Because of the wet winter, no prescribed burning was accomplished.

The following species and number of seedlings were planted:

Bareroot Longleaf Pine	550,000
<u>Containerized Longleaf Pine</u>	<u>80,000</u>
Total Trees Planted	630,000

Forest Protection

No wildfires occurred on Sand Hills this year. The Forest boundary lines and the road system are maintained as firebreaks and as access in case of wildfire.

Recreation/Education

Recreational use of the Forest continues to increase. Hunting, fishing, horseback riding, motorcycle/ATV riding, mountain biking, hiking, and camping continue to be favorite activities.

A horse-riding trail from Sugarloaf Mountain to Cheraw State Park (26 miles) named the Pine Barrens Horse Trail is near completion. The Pine Barrens Wagon Trail from Sugarloaf Mountain to Cheraw State Park (24 miles) is complete except for signs. The Cooper Black Horse Trail (21 miles) is complete and being used regularly.

The Headquarters Mountain Bike Trail has been extended from 6 miles to 9 miles. This trail was built with the help of local volunteers and Boy Scouts. People from as far away as Charlotte, NC and Columbia use the trail frequently.

At Sugarloaf Mountain, there are 7 primitive camping sites for people without horses and 8 primitive camping sites for people with horses. Approximately 500 people used these sites this year.

In the Cooper Black area, there are 11 camping sites for RV campers. These sites have electrical hookups and water access. A dump station is under construction. Also at Cooper Black is a clubhouse that is available for anyone to rent. A commercial kitchen, under construction, will add to the usefulness of the clubhouse. A comfort station (restroom/shower facility) is also near completion.

Use of the Cooper Black Area is increasing. Sixteen field trials were held this year with approximately 2,000 people involved. The South Carolina Draft Horse Association (120 people) used the area also.

Sand Hills' personnel conducted 7 educational programs that involved approximately 250 people. One of the programs was a teacher recertification program conducted by Bowater. Sand Hills is an annual stop for this program.

Wildlife Management

Approximately 40,000 acres of the Forest is included in the Wildlife Management Area Program. This is a cooperative agreement between the S.C. Department of Natural Resources and the S.C. Forestry Commission. Technical assistance with the game food plot establishment, monitoring deer herd dynamics, tracking various game and non-game species, and pond management. Law enforcement on the forest is provided through interagency cooperation. Sand Hills has a 57-acre public dove field. Thirty-five acres of this field were planted to annual crops with the remainder planted and maintained in bicolor lespedeza.

Seventy-nine acres (135 plots) were planted as wildlife food plots. These plots were planted in chufa, corn, sunflower, spring game mix, dove mix, dove proso, wild turkey mix, quail mix, sorghum, and bicolor. All plantings were fertilized and limed at the recommended rates. All manageable bicolor patches in compartments 2 and 13 were bushhogged, fertilized, and limed. Twelve additional acres were disked or bushhogged. Twelve new acres were cleared for the establishment of more food plots.

A furbearer scent survey, fox squirrel survey, turkey survey, and a quail survey were conducted to track population trends.

Sixty one established wood duck boxes were monitored, cleaned and repaired.

One thousand sawtooth oaks were planted as a mast source for deer and turkey.

Rare, Threatened and Endangered Species Management and Research

Two adult male Red Cockaded woodpeckers were translocated from private land to Sand Hills State Forest in the fall. These birds were the products of a Habitat Conservation Plan between a private landowner and the United States Fish and Wildlife Service. Both birds were periodically monitored following their release.

Other RCW management activities occurring at Sand Hills consisted of a complete cavity tree survey at Cheraw Fish Hatchery, Cheraw State Park, and Sand Hills State Forest. Four hundred forty nine cavities were located at Sand Hills, ten at the fish hatchery, and forty two at Cheraw State Park. Variables such as new and old tree number, location, cluster, status, type and general comment were recorded and the database updated. Management prescriptions were written for 76 clusters at SHSF including sites that needed no action.

Four artificial recruitment sites were constructed this summer containing two drilled cavities, one advanced start, and seven artificial cavity boxes. Translocation of juvenile birds to these sites is planned for September of this year (1998). In addition, 19 artificial cavity boxes were installed at existing clusters to augment the number of cavities available. All artificial cavity trees, as well as new natural cavity and start trees located during the winter survey were painted, tagged and GPS'd. Fifty restrictor plates were installed on enlarged cavities. A wildlife biologist and 3 technicians completed these projects.

A research project to study the impact of large scale slash pine harvest for conversion to longleaf pine on the reproductive success and juvenile recruitment of RCW is complete.

A longleaf pine natural regeneration research project in conjunction with the U.S. Forest Service is still ongoing and has been in effect for 25 years.

A University of Georgia student pursuing a doctorate in biology initiated a research project to establish a baseline population of the Pine Barren Tree Frog and the Gopher Frog. The Pine Barrens Tree Frog project is part of the mitigation plan for two ponds built in the Cooper Black Area for retriever field trials.

STATE LANDS MANAGEMENT PROGRAM

The State Lands Forest Management Program was created to provide professional forest management assistance to South Carolina state agencies that own timberlands. During fiscal year 1997-98, five agencies requested assistance from the state lands coordinator. The agencies and facilities were as follows:

Department of Natural Resources

- Webb Wildlife Center
- James Ross Wildlife Management Area
- Donnelley Wildlife Management Area
- Palachucola Wildlife Management Area
- Mason Wildlife Management Area
- Santee Coastal Reserve
- McBee Wildlife Management Area
- Sand Hills Wildlife Refuge Tract
- McConnell's Wildlife Management Area
- Samworth Wildlife Management Area

S. C. Research Authority

- Clemson Research Park

Santee Cooper Authority

- Old Myrtle Beach Air Force Base

S.C. State University

- Camp Daniel

Department of Juvenile Justice

- S.C. Youth Alternatives (Camp Winding Stairs)

Timber Revenue

Nine state-owned tracts were marked or cruised for timber sales for a volume of 3.3 million board feet of sawtimber and 4,742 cords of pulpwood. Timber and pulpwood sold in fiscal year 1998 generated \$269,080.00 for various state agencies.

NURSERIES AND TREE IMPROVEMENT

The South Carolina Forestry Commission operates Taylor Forest Tree Nursery (bareroot) at Trenton and Creech Containerized Greenhouse at Wedgefield for the production of seedlings for South Carolina landowners.

This year 25,759,550 seedlings were grown. 23,278,341 seedlings were shipped in-state, while 846,500 Seedlings were shipped out-of-state. South Carolina forest industries planted an additional 41,619,523 seedlings on company lands. A grand total of 97,962,833 seedlings were planted on 157,496 acres in the state during the year.

The Piedmont, Coastal and Sumter facilities continue to house White Pine, Virginia Pine and a hardwood genetics program. Spartanburg, Sumter, Walterboro and Taylor facilities are used as seedling distribution centers. Taylor is the only bareroot production facility.

CONTAINERIZED SEEDLINGS

Specialized needs exist for seedlings other than bareroot stock grown at the South Carolina Forestry Commission's Taylor Nursery. To meet these needs, a triple bay greenhouse is maintained at Creech Greenhouse in Wedgefield. Containerized seedlings, rooted cuttings and progeny test materials are grown at the greenhouse. The greenhouse and associated slathouses give the Commission the capacity to grow a million plus containerized seedlings annually. The greenhouse production was 1,083,316 for the fiscal year.

RESEARCH

The South Carolina Forestry Commission continues cooperative research projects with Clemson University, Auburn University and U.S. Forest Service. The Commission also maintains membership in the North Carolina State University Pine Tree Improvement Cooperative, the North Carolina State Hardwood Research Cooperative, and the Auburn University Southern Forest Nursery Management Cooperative.

FOREST TREE SEED COLLECTION PROGRAM

Each year the South Carolina Forestry Commission collects or purchases pine cones and other forest tree seed for seedling production. During the past year, Walnut, Baldcypress, Red Cedar, Yellow Poplar, and Longleaf Pine seed were either purchased or collected for future seedling production.

State Nurseries Seedling Production By Species 1997-98

Bareroot Seedlings

Improved Coastal Loblolly Pine	8,000,000
Improved Piedmont Loblolly Pine	10,500,000
Improved Texas Loblolly	100,000
Longleaf Pine	4,100,000
Improved Virginia Pine	100,000
Improved White Pine (2-0)	130,000
Baldcypress	100,000
Red Cedar	100,000
Yellow Poplar	40,000
Improved Sweetgum	-0-
Improved Sycamore	60,000
Black Walnut	35,000
Attaway Lespedeza	1,000,000
Sawtooth Oak	80,000
Miscellaneous	3,000
Total	24,348,000

White Pine (1-0) Not For Sale	100,000
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Containerized Seedlings (Creech Greenhouse)

Improved Piedmont Loblolly Pine	-0-
Improved Coastal Loblolly Pine	-0-
Improved Virginia Pine	5,000
Improved Longleaf Pine	1,222,750
Leyland Cypress	65,000
Carolina Sapphire	9,500
Clemson Greenspire	6,300
Wiregrass	3,000
Total	1,311,550

Grand Total	25,759,550
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Tree Seedling Distribution By Landowner Classification

A. Seedlings Planted in the State by Land Ownership:

Land Ownership	Percent of Total	Number of Trees Planted
1. Private Ownership	34	48,231,717
2. Christmas Tree Growers	<1	90,543
3. Forest Industry (Pulp & Paper)	33	32,175,232
4. Lumber	6	15,008,094
5. Forest Industry (Other Corp.)	21	510,000
6. Schools	<1	141,215
7. State Forest	<1	834,545
8. Other State Land	<1	66,940
9. Other Government Land	<1	866,386
10. Federal Land	3	37,025
11. Associations/Clubs	<1	51,136
Total	100	97,962,833

B. Source of Seedlings Planted in the State:

Nurseries in South Carolina

South Carolina Forestry Commission (Includes Greenhouse)	23,278,341
Champion International	7,155,778
International Paper Company	34,384,000
Westvaco	12,338,145
Weyerhaeuser	12,873,000
Total	90,029,264

Nurseries Outside of South Carolina

Georgia Forestry Commission	685,101
International Paper (Lattay)	2,380,000
Union Camp	2,077,140
International Forest Company	2,791,328
Total	7,933,569

**Total Seedlings and Acres Planted In South Carolina
1929-1998 by County**

County	Seedlings Planted 1997-98	Grand Total Planted to Date 1929-98	Acres Planted 1929 - 6/30/98
Abbeville	1,145,174	12,633,484	82,530
Aiken	4,848,641	241,594,290	304,117
Allendale	1,876,955	12,140,518	136,506
Anderson	503,529	52,695,194	74,671
Bamberg	1,625,375	68,758,088	91,319
Barnwell	1,544,047	33,939,717	174,936
Beaufort	370,475	28,182,702	37,868
Berkeley	1,584,499	133,040,322	169,938
Calhoun	333,003	49,533,757	65,516
Charleston	734,106	53,546,834	72,408
Cherokee	131,866	34,292,228	41,951
Chester	148,585	85,404,628	130,761
Chesterfield	1,274,552	147,942,508	178,255
Clarendon	437,383	71,802,222	90,923
Colleton	1,617,878	139,511,300	192,240
Darlington	929,145	39,225,364	49,758
Dillon	723,613	34,254,321	41,939
Dorchester	1,509,169	87,902,970	108,396
Edgefield	2,532,738	88,810,319	122,837
Fairfield	632,089	115,926,963	146,143
Florence	996,936	37,389,309	47,289
Georgetown	1,785,618	149,167,867	189,181
Greenville	327,469	31,149,737	37,031
Greenwood	1,370,842	94,692,183	110,452
Hampton	3,364,398	114,282,698	147,957
Horry	161,393	80,228,528	94,464
Jasper	1,774,154	102,167,698	122,290
Kershaw	823,654	190,785,598	226,484
Lancaster	2,700,777	82,256,615	103,193
Laurens	1,667,855	104,219,372	194,207
Lee	346,627	37,019,796	47,468
Lexington	2,745,172	72,239,001	92,815
Marion	634,744	43,168,914	56,072
Marlboro	503,446	61,304,140	77,987
McCormick	1,281,824	54,709,514	73,945
Newberry	2,437,521	96,713,283	129,052
Oconee	697,298	39,322,250	43,920
Orangeburg	3,613,737	149,528,538	222,850
Pickens	417,813	3,357,349	35,643
Richland	395,487	31,263,604	83,898
Saluda	1,901,577	71,812,617	88,483
Spartanburg	289,119	63,600,605	76,295
Sumter	904,067	72,869,264	87,357
Union	264,738	783,815,230	101,422
Williamsburg	1,805,182	115,536,794	159,228
York	2,131,508	66,540,440	82,347
Multiple Counties	38,117,055	160,486,408	262,697
Total	97,962,833	4,440,765,071	5,307,039

SEED ORCHARDS

Since 1963, the South Carolina Forestry Commission has been a participating member in the North Carolina State University Industry Cooperative Tree Improvement Program. Understanding that trees could be genetically improved, substantial gains have been and will continue to result in firm commitments to tree improvement programs. As tree improvement programs continue, new and greater challenges in accomplishing breeding and operational goals will become evident. All Loblolly Pine seedlings for the 1997-98 planting season were from second generation genetically improved sources.

Creech Seed Orchard

	Acres
Genetic Diversity Archives	25.0
Coastal Loblolly (Disease Resistant)	5.0
Longleaf (1 st Generation)	12.0
Virginia Pine (1 st Generation)	3.0
Sawtooth Oak	2.0
Total	47.0

Niederhof Seed Orchard

"Gobbler" Sawtooth Oak	1.3
Coastal Loblolly (2 nd Generation)	204.0
Piedmont Loblolly (2 nd Generation)	118.0
Longleaf Pine (1 st Generation)	38.0
Third Generation Breeding Orchard	2.0
Total	363.3

Coastal Seed Orchard

Sycamore	4.0
Sweetgum	6.0
Willow Oak (Seed Production)	1.3
Swamp Chestnut Oak	1.2
Green Ash	3.3
Red Maple	1.3
Southern Red Oak	2.2
White Oak	1.9
Total	21.2

Piedmont Seed Orchard

White Pine (1.5 Generation)	12.0
Northern Red Oak	2.0
Virginia Pine (1 st Generation)	3.0
Total	17.0

Grand Total Orchard Acres	448.5
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Seedling Distribution 1927-1998

Year	Total State Nurseries	Total All Sources	Year	Total State Nurseries	Total All Sources
1928-29	142,000	142,000	1964-65	49,009,893	60,683,493
1929-30	148,000	148,000	1965-66	42,310,685	56,529,185
1930-31	986,000	986,000	1966-67	48,575,190	69,597,590
1931-32	976,000	976,000	1967-68	39,970,136	58,812,136
1932-33	996,000	996,000	1968-69	29,529,285	51,453,285
1933-34	1,031,000	1,031,000	1969-70	31,415,430	49,202,630
1934-35	7,529,000	7,529,000	1970-71	31,939,880	54,540,880
1935-36	23,000,000	23,000,000	1971-72	23,677,925	41,357,225
1936-37	22,000,000	22,000,000	1972-73	30,977,800	45,239,100
1937-38	11,192,000	11,192,000	1973-74	28,443,000	42,305,500
1938-39	10,854,000	10,854,000	1974-75	40,081,500	55,996,500
1939-40	12,244,000	12,244,000	1975-76	40,664,387	59,063,387
1940-41	21,165,423	21,165,423	1976-77	39,795,375	59,238,275
1941-42	10,275,037	10,275,037	1977-78	45,734,500	64,380,200
1942-43	4,742,010	4,742,010	1978-79	43,009,533	65,936,933
1943-44	5,662,608	5,662,608	1979-80	46,374,919	76,206,619
1944-45	1,962,600	1,962,600	1980-81	53,512,622	86,419,513
1945-46	6,402,255	6,402,255	1981-82	55,727,828	87,793,028
1946-47	1,962,600	1,962,600	1982-83	47,798,858	86,265,299
1947-48	11,356,990	11,356,990	1983-84	50,169,612	100,394,312
1948-49	30,388,775	30,338,775	1984-85	51,635,770	107,717,581
1949-50	29,501,955	29,501,955	1985-86	65,464,810	124,381,360
1950-51	20,615,315	20,615,315	1986-87	73,554,964	157,522,970
1951-52	16,619,000	19,619,000	1987-88	78,787,967	164,094,827
1952-53	22,035,850	32,246,298	1988-89	55,051,595	153,450,416
1953-54	36,210,100	42,852,314	1989-90	38,355,557	128,475,489
1954-55	35,373,025	45,182,255	1990-91	29,297,000	102,384,439
1955-56	34,413,550	42,931,755	1991-92	31,983,779	94,7105,82
1956-57	55,753,600	69,658,736	1992-93	22,665,397	84,287,351
1957-58	60,846,200	93,369,084	1993-94	23,286,422	119,310,888
1958-59	123,985,000	166,351,000	1994-95	16,153,974	90,333,823
1959-60	147,146,365	187,516,418	1995-96	16,841,263	99,549,491
1960-61	145,609,075	158,330,575	1996-97	16,058,174	99,438,594
1961-62	71,892,420	83,844,470	1997-98	23,278,341	97,962,833
1962-63	56,191,241	64,201,541			
1963-64	51,445,597	62,423,597			

Total State Nurseries: 2,453,737,962

Total All Sources: 4,198,646,345

Forest Tree Seedling Sales, Distribution by Species, By County, Fiscal 98

	2nd Gen. Coastal Loblolly	2nd Gen. Piedmont Loblolly	Longleaf	Lespedeza	Misc.	Virginia Pine	White Pine (2-0)	Red Cedar	Leyland Cypress	Imp. Texas Loblolly	Sawtooth Oak	Bald- cypress	Imp. Sycamore	Yellow Poplar	Black Walnut	Carolina Sapphire	Clemson Greenspire	Wire Grass	Grand Total
Abbeville		1,129,404	90	4,000		1,050	3,500	500	324		1,100			4,500	400	288	18		1,145,174
Aiken	3,777,250	350,500	586,476	15,000	104,460	3,185	1,100	3,400	2,700		300	3,000				162	108	1,000	4,848,641
Allendale	588,500	1,029,040	142,000	3,000	114,000	135			90				100			90			1,876,955
Anderson		473,961		9,000		3,600	5,100	4,900	3,726		300	600	300	1,600	100	234	108		503,529
Bamberg	1,587,540		26,975	6,000			500	1,100	360		2,800	100							1,625,375
Barnwell	1,413,150	34,000	68,535	20,000	4,000	100	200	1,300	162		1,500	500		500	100				1,544,047
Beaufort	334,000		28,875	2,000		2,500	1,100	800	792		100	100			100	54	54		370,475
Berkeley	1,428,256		20,520	47,000	77,803	600		1,800	360	3,000	2,000	2,100	500	100	100	360			1,584,499
Calhoun	272,000	1,000	40,580	13,000		1,845	500	2,600	306		400	300	100	200	100	36	36		333,003
Charleston	515,070		122,275	4,000	72,088	6,000	1,600	800	3,330		5,955	1,000		600	200	612	576		734,106
Cherokee		126,500				1,000	2,100	100	486		700	100	600		100	180			131,866
Chester		142,213	2,500			500	1,500		1,692							180			148,585
Chesterfield	41,500	219,500	981,955	9,000		1,545	100	1,000	162	17,500	1,300		100	100	700	18	72		1,274,552
Clarendon	394,500		15,985	21,000		370	100	700	630	1,000	700	1,200		1,000		90	108		437,383
Colleton	1,341,895	1,500	146,430	6,000	116,794	3,325	1,100	900	54		200	200	100	100	100	90	90		1,617,878
Darlington	765,000	18,500	119,195	9,000		600	2,100	3,100	3,024	8,000	200	0		200	100	54	72		929,145
Dillon	705,000		15,305			600	100	1,100	900				500		0	18	90		723,613
Dorchester	1,459,802		8,595	4,000	20,240	1,600	250	300	1,278	12,000	200	100	100	100	100	324	180		1,509,169
Edgefield	1,914,476	542,500	21,090	20,000		11,000	2,100	6,500	576	6,000	2,000	5,000		1,100		198	198		2,532,738
Fairfield	2,000	601,117	1,040	23,000				500	252	500	3,400			100		90	90		632,089
Florence	958,500	4,500	20,950	4,000			400	1,200	2,196		1,200	800		3,000	100	36	54		996,936
Georgetown	1,691,880		35,930	57,000				500	72		100				100		36		1,785,618
Greenville	0	303,900	545	2,000		3,940	8,100	2,400	3,096	1,000	200		500	700	800	126	162		327,469
Greenwood		1,361,166	1,000	2,000		500	3,000		1,422		700	500		500			54		1,370,842
Hampton	3,096,940		228,955	31,000		235		4,100	360		1,400			1,000	300	54	54		3,364,398
Horry	64,500	6,000	13,250	50,000		1,100		500	5,202		1,025	300	19,000	200	100	108	108		161,393
Jasper	1,622,200		126,520	10,000	13,000	1,000		1,200	234										1,774,154
Kershaw	293,500	255,500	257,690	8,000		1,790	100	2,200	2,376	1,000	900	300			100	18	180		823,654
Lancaster	16,000	2,641,500	38,605	1,000		1,500	1,600		54		500					18			2,700,777
Laurens	2,000	1,645,785		3,000		5,400	4,000	2,000	2,124		1,650	300	100	1,000	100	288	108		1,667,855
Lee	82,500	171,000	80,220	8,000		3,545			126		100			100	1,000	18	18		346,627
Lexington	2,035,700	223,500	436,945	10,000		20,195	3,100	3,400	4,752	500	1,000	3,000	200	700	1,100	684	396		2,745,172
Marion	632,000		1,000					100	108		700	500	100	100	100	18	18		634,744
Marlboro	459,500	4,000	28,440	10,000				1,000	216		200					90			503,446
McCormick	184,404	1,093,040		4,000					180			200							1,281,824
Newberry	2,000	2,424,796		5,000	350	545		1,500	864		1,650	600				126	90		2,437,521
Oconee		677,333		2,000		545	8,100	2,000	1,368	500	1,600	100		3,300	200	90	162		697,298
Orangeburg	3,372,941	4,000	86,835	109,000	19,003	1,300	600	5,600	1,584	2,000	4,150	2,100	100	1,300	2,900	162	162		3,613,737
Pickens		384,133	360	3,000		2,380	17,200	2,300	2,196	4,500	700			100	800	90	54		417,813
Richland	189,000	50,500	100,025	20,000		5,550	2,300	5,400	4,896		3,500	5,500	6,000	1,000	700	756	360		395,487
Saluda	575,000	1,317,980	1,545	4,000		600	1,100		918			200				198	36		1,901,577
Spartanburg	1,000	254,179	1,495	8,000		8,335	5,800	3,000	4,626		900	100			1,000	234	450		289,119
Sumter	476,500	76,000	311,620	15,000		2,745	600	1,900	1,314	2,000	300	14,600	100		100	216	72	1,000	904,067
Union	500	254,860		5,000		1,100	700	1,600	360		500			100		18			264,738
Williamsburg	1,671,494	1,500	65,645	60,000		1,045	100	1,100	684		1,300	1,300		600		198	216		1,805,182
York		2,067,000	950	49,000		2,410	3,900	700	3,618		300	2,800	200			414	216		2,131,508
Multiple Counties	36,347,000	426,500	1,152,015	125,000		5,280	16,200	6,300	6,948	1,000	4,000	3,600	9,200	12,600	800	414	198		38,117,055
Grand Total	70,314,998	20,318,407	5,338,961	820,000	541,738	109,595	99,950	81,400	73,098	60,500	51,730	51,100	37,900	36,500	12,500	7,452	5,004	2,000	97,962,833

FIRE MANAGEMENT

Area protected: 12,807,924 acres. Acres protected is based on 1993 Forest Survey data for non-federal forest land, plus 10% to cover adjacent non-forest land. Also included is 101,320 acres of federal land protected under special contract. Mutual aid is provided on 802,147 acres of additional federal land.

Wildfire occurrence during the fiscal year was the lowest since statewide record-keeping began in 1947. The Forestry Commission responded to 1,943 fires during 1997-98, compared to the previous low of 2,445 fires in 1965.

The 10,425 acres burned during the year did not establish a new record low, but was far below average. The year's largest wildfire burned 750 acres in Horry County during the month of June.

Low wildfire losses are attributed to abundant rainfall associated with a strong *el Nino* event dominating weather patterns during the winter-spring wildfire season. The highest sustained wildfire danger during the year occurred during the month of June as the *el Nino* subsided.

FIRE PROTECTION

The Forestry Commission has cooperative arrangements with 10 fire and emergency management entities. Activities for each cooperative during FY 1997-98 are as follows:

Southeastern States Forest Fire Compact Commission: Formed in 1954, the Compact allows member states to provide and receive mutual aid in fighting wildland fires. Member states include: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

SCFC provided firefighting assistance to the State of Florida for 41 consecutive days during June and July, 1998. A total of 171 SCFC firefighters logged 2,024 man-days of service under the Compact during the period. Twenty-four pieces of SCFC firefighting equipment were dispatched for a total of 691 use-days.

SC Division of Emergency Preparedness: There were no emergency activations involving SCFC during the year. Staff foresters participated in several EPD emergency response training sessions.

Rural Cooperative Fire Protection Program: Federal funds for this program have decreased significantly over the past few years. During the year, 23 fire departments were approved for matching-fund grants totaling \$13,000.

Federal Excess Property Program: One hundred and fifty-seven pieces of federal excess equipment were loaned to fire departments during the year. At present, 744 pieces of equipment are assigned to 348 departments statewide.

National Weather Service: NWS provides daily fire weather forecasts and atmospheric dispersion information. During the year, SCFC and NWS worked to improve content and timing of daily forecasts.

USDA Forest Service: Under the terms of a 1996 contract, SCFC provides aerial wildfire detection on 611,407 acres of National Forest land and 198,000 of Savannah River Site land in SC. A mutual aid agreement between the US Forest Service and SCFC allows both parties to provide initial attack firefighting within one-quarter mile of National Forest boundaries.

DOD Corps of Engineers: Beginning in 1997, SCFC has provided all fire suppression services on 55,320 acres of Corps of Engineers land. Under the terms of the agreement, actual fire suppression costs are reimbursed to the SCFC.

USDI Fish and Wildlife Service: Under the terms of a 1992 land acquisition agreement, SCFC provides initial attack fire suppression on the 46,000 acre Carolina Sandhills National Wildlife Refuge. The agreement terminates in 2042. SCFC maintains mutual aid firefighting agreements with the following National Wildlife Refuges: Ace Basin, Cape Romain, Savannah, Pinckney Island, and Santee.

USDI Park Service: Agreement maintained; no reportable activity.

Wildland Fire Protection Partnership: Organized in 1991, the Partnership seeks solutions to wildfire management problems in the wildland-urban interface. Membership includes the SC Forestry Commission, US Forest Service, SC Firemen's Association, Department of Health and Environmental Control, SC Division of Emergency Preparedness, SC Fire Marshal, SC Fire Academy, and SC Forestry Association (*ex officio*).

During the year the Partnership sponsored the SCFC video production of S-190, a nationally accredited course in Basic Wildfire Behavior. The video course was designed primarily to make standard wildland fire training readily available to the SC Fire Service. The course is available to fire departments statewide.

Eighty Fire Service personnel completed the course during the last quarter of the fiscal year. Each will receive a certificate and a distinctive uniform shoulder patch.

FIRE WEATHER

Weather Stations. The Forestry Commission, USDA Forest Service, National Park Service, and USDI Fish and Wildlife Service share a network of 13 Automated Weather Stations across the state. Data from these stations are used in daily calculations for the National Fire Danger Rating System. Weather readings from these stations are available 24 hours a day for wildfire and prescribed fire management purposes.

Inches Precipitation: FY 98*

Month	Precipitation	Normal Precipitation	Departure from Normal
July 97	6.92	5.60	+1.32
August	2.19	5.57	-3.38
Sept	5.70	4.31	+1.39
Oct	4.52	3.15	+1.37
Nov	4.52	2.88	+1.64
Dec	5.28	3.60	+1.68
Jan 98	7.43	3.97	+3.46
Feb	7.84	3.90	+3.94
Mar	5.17	4.96	+0.21
Apr	6.62	3.37	+3.25
May	2.89	4.09	-1.20
June	3.54	5.22	-1.68
TOTAL	62.62	50.62	+12.00

Precipitation Last 5 Years*

Fiscal Year	Precip. Inches	Departure from Normal
1993-94	42.76	-7.57
1994-95	57.29	+4.69
1995-96	47.72	+4.62
1996-97	50.62	-3.46
1997-98	62.62	+12.00
5-Yr. AVERAGE	52.20	+1.58

*measured by NOAA and SC Climatology Office, averaged for state

Readiness Plan. The daily readiness level of Forestry Commission firefighters is based on fire danger data, available number of firefighters, and status of firefighting equipment. Average statewide readiness levels for FY 97 are as follows:

Readiness 1 (No wildfire danger)	14 days
Readiness 2 (Low wildfire danger)	275 days
Readiness 3 (Moderate wildfire danger)	72 days
Readiness 4 (High wildfire danger)	4 days
Readiness 5 (Extreme wildfire danger)	0 days

Burning Ban and Red Flag Fire Alert. A statewide Red Flag Fire Alert was issued on June 25 due to prolonged dry weather and high temperature. The Alert was still in effect at the end of the fiscal year.

DISPATCH AND AIR OPERATIONS

Dispatch. Forestry Commission dispatch is by closest available resource, regardless of political or administrative boundaries. Dispatching was handled by Region Dispatch Centers located in Walterboro, Florence, and Newberry.

Air Operations. Eight Forestry Commission pilots equipped with Federal Excess planes provided both fire detection and incident reconnaissance. Private aerial contractors trained in wildfire detection supplemented the agency's resources when needed. A combined total of 4,348 hours of aerial detection/suppression time was logged during the fiscal year.

LAW ENFORCEMENT

The Forestry Commission has 63 commissioned law enforcement officers, all certified by the Criminal Justice Academy. In order to provide better coordination of the law enforcement effort, the three Region investigators were transferred to the Fire Management Staff just prior to the beginning of the fiscal year.

During the year, investigators placed strong emphasis on investigation of timber theft and fraud. Public demand for these services continues to grow. Thirty-three cases of timber theft were cleared in fiscal 97-98 — timber valued at \$180,000. Eleven court cases are pending — timber valued at \$225,000. Eleven cases are still under investigation — timber valued at \$188,000.

Five new Forest Law Enforcement officers were trained and certified through the SC Criminal Justice Academy this year. The following specialized training was provided for selected officers: Kinesic Interviews and Interrogations, Advanced Fire Investigation, Criminal Profiling, Critical Incident Debriefing, and Psychology of Juvenile Firesetters.

Specialized law enforcement equipment obtained during the year included two video surveillance cameras.

TRAINING

The Fire Management Staff conducted the following training during the year: Basic Firefighting School (SCFC), Basic Firefighter Training (S-130), Introduction to Fire Behavior (S-190), and Portable Pumps and Water Use (S-211). In addition, Fire Management provided instructional assistance in the USFS presentation of Basic Information Officer Training (I-403).

Dispatch managers were provided two special courses: Basic Dispatch and Communication Procedures, and Introduction to Fire Management. New contract pilots were provided training in SCFC aerial detection procedures.

Personnel from Federal agencies, local government, and other state agencies attended courses presented by the Fire Management Staff.

FIRE PREVENTION/FIRE INFORMATION

Note: responsibility for fire prevention and fire information passed from Information/Education to Fire Management in February, 1998.

In a cooperative effort with the Information and Education Department, the Fire Management Section participated in a \$2,000 in-house grant designed to generate locally targeted wildfire prevention. Proposals were received from Williamsburg and Berkeley Counties; both were funded in full.

During the year, Fire Management developed procedures and training for the Smokey voice system; produced 18 art/graphic pieces to support SCFC programs; produced 2 computer animation sequences; participated with USFS in a Smokey promotion for the Capitol City Bombers; wrote scripts for 2 training videos; and produced 9 news releases and 2 magazine feature articles. In addition, the Fire Management Staff provided 98 media interviews during the year.

Fires by Cause

Cause	Number	Acres Burned	Av. Acres Per Fire	FY 98	Percent of Total 5 Yr. Av.
Lightning	53	743.9	14.0	2.7	2.2
Campfire	17	96.2	5.7	.9	.6
Smoking	72	258.3	3.6	3.7	3.2
Debris Burning	796	3680.7	4.6	40.9	36.4
Incendiary	581	4073.1	7.0	29.9	39.6
Equipment	118	443.8	3.8	6.1	5.4
Railroad	18	123.4	6.9	.9	.9
Children	125	235.7	1.9	6.4	5.4
Miscellaneous	163	770.0	4.7	8.5	6.3
TOTALS	1943	10,425.1	5.4	100.0	100.0

Five-Year Summary, All Fires

Fiscal Yr.	Acres Protected	# Fires	Acres Burned	Av. Acres/Fire	%Area Burned
93-94	12,706,604	6,468	40,074.0	6.2	.32
94-95	12,706,604	3,377	16,524.5	4.9	.13
95-96	12,707,604	4,341	27,112.1	6.2	.21
96-97	12,807,924	3,204	21,730.7	6.8	.17
97-98	12,807,924	1,943	10,425.1	5.4	.08
Five Year Averages		3,867	23,173.3	5.9	.18

PRESCRIBED FIRE

Certified Prescribed Fire Manager Program. Four Certified Prescribed Fire Manager Schools were conducted during the year. A total of 573 individuals have been certified as prescribed fire managers since the program's inception in 1994.

Prescribed Burning for Forestry, Wildlife, and Agriculture

Region	Forestry Understory		Forestry Site Prep.		Wildlife		Agriculture	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Coastal	1505	131,582	1893	8,390	502	46,707	2606	48,993
Pee Dee	835	38,338	1499	10,939	195	15,808	3218	73,816
Piedmont	218	26,874	340	7,636	45	2,691	382	4,878
Totals	2,558	196,794	3,732	26,965	742	65,206	6206	127,687

Grand Total Burning Under Smoke Management Guidelines: 13,238 fires; 416,652 acres

Acres Protected and Total Burning Notifications by County

<u>County</u>	<u>Acres Protected</u>	<u>Notifications</u>
Abbeville	202,645	519
Aiken	455,540	1,267
Allendale	178,794	278
Anderson	214,724	1,551
Bamberg	182,062	333
Barnwell	147,093	537
Beaufort	136,739	1,355
Berkeley	390,299	1,417
Calhoun	168,997	439
Charleston	244,835	877
Cherokee	165,386	539
Chester	307,154	462
Chesterfield	350,594	792
Clarendon	241,314	779
Colleton	502,776	1,191
Darlington	206,641	489
Dillon	158,914	470
Dorchester	283,205	854
Edgefield	238,766	597
Fairfield	409,985	365
Florence	322,779	1,204
Georgetown	417,150	1,003
Greenville	271,893	2,321
Greenwood	212,203	588
Hampton	279,511	766
Horry	492,064	2,249
Jasper	329,574	776
Kershaw	413,527	686
Lancaster	289,284	391
Laurens	325,714	611
Lee	149,375	196
Lexington	280,985	1,937
Marion	239,275	437
Marlboro	203,172	346
McCormick	140,099	218
Newberry	254,485	521
Oconee	226,058	1,191
Orangeburg	438,154	1,199
Pickens	233,056	1,325
Richland	280,398	1,620
Saluda	203,906	343
Spartanburg	289,043	1,847
Sumter	258,685	814
Union	229,078	194
Williamsburg	450,241	959
York	290,432	1,669
Federal Land	101,320	—
Total Burning Notifications Received at Dispatch Centers:		40,522
Total Yard Debris Burning Notifications From Statewide Automated Attendant:		289,892
Grand Total All Notifications Received:		330,414

Total All Land Fires by County and Month, Fiscal Year 1998

County	July		August		September		October		November		December		January		February		March		April		May		June		Total No.	Total Acres
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres		
Abbeville	3	2.7	1	15.0	4	8.1					1	2.0	2	3.2	4	14.3	6	67.7	3	5.0	1	0.3	5	11.5	30	129.8
Aiken	8	270.8	7	55.0	20	52.0	8	15.1	3	6.0	4	23.0	3	11.0	9	24.5	26	91.7	11	34.5	14	60.6	27	64.6	140	708.8
Allendale	1	2.5			1	2.0					1	0.5	1	1.2			3	17.0			1	0.5	2	0.4	10	24.1
Anderson	3	7.0	2	9.0	4	7.0	1	2.0	1	3.0	2	4.0			1	2.0	5	37.0	3	39.0			2	7.0	24	117.0
Bamberg			1	3.0	1	0.1							1	0.1			3	5.6	1	2.0	1	0.1	1	0.1	9	11.0
Barnwell	1	0.3	2	0.2	4	4.6	1	0.2	1	35.0	8	16.5			3	2.0	2	0.2	2	0.4			3	71.3	27	130.7
Beaufort	1	1.0			4	9.6							2	3.0	2	9.0	3	23.5	4	28.1	3	5.6	2	3.1	21	82.9
Berkeley	1	0.1	11	217.6	6	14.1			1	1.0	4	12.1	2	27.0	5	13.0	40	371.2	8	34.5	5	24.3	18	69.4	101	784.3
Calhoun			1	1.0							2	11.0	2	65.7	2	1.0	5	13.5	3	8.9	1	0.2			16	101.3
Charleston	1	5.0	1	3.0	2	0.2			1	1.0	1	5.0					6	135.5	2	20.1	1	1.5	3	10.4	18	181.7
Cherokee	2	4.0	8	79.0	3	4.0			2	2.0					4	35.0	3	21.0	2	21.0			1	30.0	25	196.0
Chester	1	2.0	6	41.6	3	10.5	1	1.0	1	3.0			1	3.0	1	0.1	3	3.0	3	59.0	1	7.0	5	69.0	26	199.2
Chesterfield	10	25.3	8	17.7	3	1.6	3	14.1			8	7.4	3	0.4	8	14.5	12	19.9	16	72.3	4	2.5	9	16.1	84	191.8
Clarendon	1	0.1	1	0.1	4	57.4	1	0.3	2	0.6	6	22.1	2	17.0	5	31.5	12	284.7	5	101.4			7	13.2	46	528.4
Colleton	3	4.2	2	1.1	7	19.4	2	1.1	12	7.5	9	26.3	6	10.1	8	9.6	17	68.3	3	10.1	3	3.4	7	21.4	79	182.5
Darlington	2	1	1	5	3	16.0	2	0.5	1	3.0	3	3.8	3	23	1	1.0	6	133.5	6	14.5	5	6.3	3	5.0	36	212.6
Dillon	7	27.3	5	53.2	7	8.2	1	0.5							1	1.0	5	14.0	3	6.2			5	54.9	34	165.3
Dorchester			1	0.1	6	55.4	3	1.7					1	4.0	5	171.5	15	139.1			2	1.1	8	30.5	41	403.4
Edgefield	1	0.1	2	1.1	4	16.3	1	3.0	2	7.0							6	26.7	1	0.1	2	8.5	1	0.1	20	62.9
Fairfield	1	0.1	3	0.5	6	39.3	1	0.2	3	8.1					2	42.2	2	15.5	7	18.2			7	2.4	32	126.5
Florence	3	3.0	2	1.3	12	14.8	3	3.8			1	0.1	2	3.5	3	20.0	19	74.3	5	15.0	2	27.0	5	21.2	57	184.0
Georgetown			1	1.0	3	3.0	1	2.0	1	1.0	1	5.0			2	13.0	12	258.0	8	39.1	1	3.0	10	361.5	40	686.6
Greenville	1	0.3	2	0.6	3	2.5	1	1.5	3	10.5	4	8.0	1	20.0	8	61.5	9	27.0	7	14.5	6	6.0	4	3.3	49	155.7
Greenwood	1	0.1	3	3.3	2	0.7	1	7.0			2	5.5	3	2	5	4.9	3	5.0	4	4.0	2	0.3	3	1.2	29	34.0
Hampton	2	1.1	1	1.0	6	6.0	4	12.6	1	0.1	2	10.1	2	2.2	6	6.3	4	6.2	3	0.6	1	0.2	3	2.3	35	48.7
Horry	1	0.5	12	75.3	8	22.0	4	5.6	6	27.1	3	5.0	1	0.1	4	10.1	22	188.1	14	19.2	6	2.6	20	807.3	101	1,162.9
Jasper	2	2.3			2	5.0					2	7.0			4	15.0	6	63.0	6	49.1	3	19.1	3	9.5	28	170.0
Kershaw	2	1.1	8	14.8	5	3.7	4	3.5	2	60.0	3	3.6	3	5.0	2	2.0	5	26.0	3	2.0	2	2.0	7	23.5	46	147.2
Lancaster	6	169.6	3	22							2	5.0					6	6.8	1	1.0	1	1.0	3	8.0	22	213.4
Laurens			2	2.5	4	12.0	2	3.5	1	45.0	1	0.5					1	2.0	4	36.5	1	4.0	4	16.8	20	122.8
Lee	8	98.6	1	10.0	5	34.0	1	2.0	2	8.0	6	16.8			1	2.5	8	85.0	6	25.5	1	1.0	4	3.8	43	287.2
Lexington	6	14.2	8	15.3	27	37.9	3	0.8	2	1.2	9	9.6	6	39.7	14	47.8	17	61.7	17	33.7	15	14.9	14	24.4	138	301.2
Marion			5	5.4	2	2.3					3	4.6					4	21.0	3	7.2			2	2.6	19	43.1
Marlboro	2	12.3	4	3.9	2	2.6	3	0.3	2	0.2	2	5.0	1	5.0			12	19.8	3	9.1	2	2.1	3	2.7	36	63.0
McCormick			5	1.0	4	69.4	1	0.5	1	0.3	2	0.6			1	0.5	1	1.0	3	25.0	1	0.1	2	15.3	21	113.7
Newberry	2	3.2	2	25.2	4	1.8					2	6.0			4	1.8	4	36.0	2	1.4			1	28.0	21	103.4
Oconee	2	1.7					1	2.0					4	6.6	3	7.0	14	28.1	2	7.0	1	0.5			27	52.9
Orangeburg	2	78.0	10	73.9	13	37.3	3	1.9	3	3.1	6	58.5	6	34.0	6	47.0	13	71.3	3	2.7	1	30.0	9	46.7	75	484.4
Pickens	2	1.2	4	8.5	4	4.1			3	1.7	4	6.5	1	3.0	5	18.5	11	23.3	9	17.0			3	1.1	46	84.9
Richland	1	1.0	3	24.0	4	3.2	3	5.0			1	10.0			4	23.1	9	26.5	5	37.0	3	17.0	7	13.1	40	159.9
Saluda	1	0.3	3	5.1	4	11.2	3	11.2	1	5.0			1	0.2	2	0.3	3	10.8			3	9.3	3	7.8	24	61.2
Spartanburg			2	7.0	7	18.0			1	5.0	1	5.0			3	15.0	6	44.0	5	11.0	1	3.0			26	108
Sumter	2	0.2	1	2.0			1	0.1	3	45.0	5	22.5			3	21.0	10	118.0	4	13.5	3	46.0	9	26.3	41	294.6
Union	2	2.5	5	6.0	7	13.0			1	1.0	1	5.0			2	4.0	6	71.0	2	6.5	1	1.0	2	4.5	29	114.5
Williamsburg	1	0.5	2	9.0	4	18.5	3	2.3	5	68.0	4	25.0	7	46.1	9	36.2	39	381.4	8	29.0	3	12.2	10	20.7	95	648.9
York	3	4.2	2	1.5	2	1.5									5	26.5	1	1.5	1	1.0			2	2.5	16	38.7
Grand Total	99	749.4	154	822.8	226	650.3	67	105.3	68	359.4	116	358.6	67	336.1	157	756.2	425	3,145.4	211	882.9	104	324.2	249	1,934.5	1,943	10,425.1

Total All Land Fires by County and Cause, Fiscal Year 1998

County	Lightning		Campfire		Smoking		Debris Burning		Incendiary		Equipment Use		Railroad		Children		Miscellaneous		Total No.	Total Acres
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres		
Abbeville	2	1.5			2	4.0	10	68.7	6	36.7	4	5.6	1	8.0	2	3.0	3	2.3	30	129.8
Aiken	7	307.0			1	10.0	44	134.3	54	174.6	10	37.4			16	36.8	8	8.7	140	708.8
Allendale	1	2.5					5	7.8	2	13.2							2	0.6	10	24.1
Anderson	1	2.0	1	6.0	1	3.0	10	30.0	2	16.0	1	5.0			5	30.0	3	25.0	24	117.0
Bamberg	1	3.0					3	7.1	1	0.1	3	0.3					1	0.5	9	11.0
Barnwell	4	1.8	1	3.0			9	116.4	5	1.1	3	1.3			3	2.0	2	5.1	27	130.7
Beaufort	1	1.0			1	0.1	7	24.6	10	51.7							2	5.5	21	82.9
Berkeley	1	1.0			1	0.1	39	146.9	51	584.7	2	1.5	2	33.0	1	0.1	4	17.0	101	784.3
Calhoun					1	0.2	9	88.1	1	0.8	3	3.5					2	8.7	16	101.3
Charleston							13	38.4	5	143.3									18	181.7
Cherokee	1	62.0			3	4.0	4	33.0	7	36.0	3	8.0	1	18.0	1	10.0	5	25.0	25	196.0
Chester	1	58.0			1	2.0	9	23.8	5	62.2	7	50.7	1	1.0	1	0.5	1	1.0	26	199.2
Chesterfield	5	10.3			3	13.0	41	48.9	25	102.5	5	3.3					5	13.8	84	191.8
Clarendon							19	49.8	22	474.2	2	4.1			1	0.1	2	0.2	46	528.4
Colleton	2	8.1					34	77.6	30	69.3	8	11.3			3	1.2	2	15.0	79	182.5
Darlington	1	0.5					16	36.3	12	47.5	2	123.0			2	1.5	3	3.8	36	212.6
Dillon			1	25.0	2	15.2	11	37.6	8	55.7	9	25.8					3	6.0	34	165.3
Dorchester							18	50.8	20	350.7					3	1.9			41	403.4
Edgefield					1	8.0	10	40.1	2	3.1	1	0.1	1	3.0	1	5.0	4	3.6	20	62.9
Fairfield	1	0.2	1	0.1	5	1.6	11	21.3	3	58.0	4	8.0			2	0.8	5	36.5	32	126.5
Florence					1	0.1	26	75.1	23	88.3	2	11.5			4	6.8	1	2.2	57	184.0
Georgetown	1	7.0					21	396.1	18	283.5									40	686.6
Greenville			3	6.0			21	47.8	7	16.3	2	2.5			2	4.0	14	79.1	49	155.7
Greenwood	2	0.2			3	3.2	16	25.2	1	1.0	2	0.8			2	2.0	3	1.6	29	34.0
Hampton					1	0.5	18	23.3	11	19.0	2	4.2	1	0.5	1	0.2	1	1.0	35	48.7
Horry	1	1.0	2	10.1	2	1.1	34	865.4	42	148.4	5	18.6			7	12.2	8	106.1	101	1,162.9
Jasper	1	4.0					11	59.3	12	97.6	1	1.0	1	0.1	2	8.0			28	170.0
Kershaw	2	2.5			1	1.5	26	107.3	7	15.1	4	15.5			3	0.3	3	5.0	46	147.2
Lancaster	4	154.0			1	2.0	7	26.6	5	7.8					3	6.0	2	17.0	22	213.4
Laurens			1	20.0	5	49.5	6	8.5			1	2.0	2	15.5			5	27.3	20	122.8
Lee	2	25.0			1	10.0	22	114.8	15	130.4			1	3.0			2	4.0	43	287.2
Lexington	3	30.0			4	15.6	63	101.2	13	58.2	7	37.4	1	1.0	35	50.8	12	7.0	138	301.2
Marion					1	2.0	6	24.3	8	15.6	1	0.2	1	0.1	1	0.8	1	0.1	19	43.1
Marlboro							9	14.4	23	40.4	1	0.1			3	8.1			36	63.0
McCormick			1	1.0	2	3.3	7	3.0			2	15.1	5	40.2	1	0.5	3	50.6	21	113.7
Newberry	1	25.0	2	4.0	3	6.1	6	33.8			2	0.4					7	34.1	21	103.4
Oconee					1	0.1	13	23.7	6	7.1	1	10.0			1	0.5	5	11.5	27	52.9
Orangeburg	4	33.1			5	28.4	29	165.2	21	115.5	4	1.9			5	9.0	7	131.3	75	484.4
Pickens	1	0.2	2	8.0	4	11.3	26	39.9	2	1.2	1	8.0			2	2.8	8	13.5	46	84.9
Richland	1	2.5			1	1.0	11	27.5	14	76.0	2	1.2			4	19.1	7	32.6	40	159.9
Saluda					4	14.4	12	28.2	2	5.2	5	11.4					1	2.0	24	61.2
Spartanburg			2	13.0	4	28.0	13	39.0			3	12.0			2	4.0	2	12.0	26	108.0
Sumter							24	100.8	14	191.1	1	0.5			2	2.2			41	294.6
Union	1	0.5			4	5.0	11	13.0	2	58.0					2	4.0	9	34.0	29	114.5
Williamsburg					2	14.0	26	222.1	62	411.0	2	0.6					3	1.2	95	648.9
York							10	13.7	2	5.0					2	1.5	2	18.5	16	38.7
Grand Total	53	743.9	17	96.2	72	258.3	796	3,680.7	581	4,073.1	118	443.8	18	123.4	125	235.7	163	770.0	1,943	10,425.1

Law Enforcement Summary, Fiscal Year 98

County Or State Forest	Careless Negligent		Intentional		Willful and Malicious		Precautions		State Forest and WMA		Other		Burn Site Insp.	Investigations			Total		Fines
	P*	C*	P*	C*	P*	C*	P*	C*	P*	C*	P*	C*		Fire	Smoke Mgt.	Timber Theft	Violations	Prosecutions	
Abbeville							1	1					2	5		1	18	1	\$50.00
Aiken	1	1					1	1					2	4	4	9	110	2	\$50.00
Allendale													1	1			7		
Anderson					1						1		8	3	18		17	2	
Bamberg	1	1											1	1	2	5	4	1	\$125.00
Barnwell	1	1											12	1	5	1	17	1	\$75.00
Beaufort													5	3	8	1	17		
Berkeley	1	1					4	4					28	28	47	1	91	5	\$900.00
Calhoun	2	2					3	3					2	7	5	4	10	5	\$425.00
Charleston	1	1					2	2					5	5	5	2	18	3	\$693.00
Cherokee							2	2					4	2	10		12	2	\$125.00
Chester	3	3					1	1					30	4	6		15	4	\$305.00
Chesterfield	6	6					3	3					23	27	5		66	9	\$525.00
Clarendon													6	2			42		
Colleton	2	2					1	1					3	5	8	3	67	3	\$225.00
Darlington													2	1	1	1	30		
Dillon													10	6			19		
Dorchester							5	5					3	13	8		41	5	\$275.00
Edgefield													9	3	2	1	13		
Fairfield	1	1												4	2	1	16	1	
Florence	1	1			1	1	1	1					12	7	8	1	53	3	\$350.00
Georgetown	2	1					3	2					7	12	5		39	5	\$550.00
Greenville	3	3					1	1						11	8		30	4	\$350.00
Greenwood													36	2	6	1	19		
Hampton													2	5	2		30		
Horry	2	2					5	5					18	11	9	1	83	7	\$297.00
Jasper													8	7	5		25		
Kershaw	5	5					6	6					24	12	1	2	36	11	\$1,570.00
Lancaster	1	1												1			15	1	
Laurens							1							3			6	1	
Lee													3	1		1	37		
Lexington	7	7			2	2							20	20	41	1	111	9	\$1,050.00
Marion							1	1					3	1	6		15	1	\$50.00
Marlboro													9	6	6		35		
McCormick														2		2	8		
Newberry														2			6		
Oconee	3	3												6	50		20	3	\$275.00
Orangeburg	4	4					5	5					8	13	12	8	55	9	\$700.00
Pickens	10	10			1		3	3					20	21	5		30	14	\$850.00
Richland	2	2											7	5	20	2	29	2	\$285.00
Saluda													6	3	2		14		
Spartanburg	1	1											10	1	8	1	15	1	
Sumter							1	1					6	2	3	1	40	1	\$90.00
Union													9	2	15	1	15		
Williamsburg	4	4			3	2	10	10					9	26	5	2	90	17	\$1,304.00
York	1	1							3	3			20	5	4	1	15	1	\$125.00
Manchester																	3	3	\$375.00
Sand Hills									14	14							15	14	\$4,075.00
Total	65	64			8	5	60	58	17	17	1		401	312	357	55	1,503	151	\$16,069.00

P* = Prosecutions

C* = Convictions

INSECT AND DISEASE

The Insect and Disease Section in cooperation with the State Division of Plant Industry and the U.S. Forest Service maintains a program to detect, evaluate, and suppress forest pests. Through cooperative agreements, these agencies make their technical assistance and advice available to the Forestry Commission.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, require control action, or which may present new problems. Aerial surveys are made periodically for specific pests to determine occurrence and the need for suppression action.

MAJOR INSECT PROBLEMS

Southern Pine Beetle

Southern pine beetle activity rose substantially in the upper state coastal plain during late summer of 1997. Losses in Horry and Georgetown counties were large enough for them to be declared in outbreak status. 100% surveys were performed in these counties and in Williamsburg County and affected landowners were notified of their problem. Surveys during the period detected 1478 beetle spots containing 309,293 dead pines. This represented a volume loss of 17,584 cords and 12,371,714 board feet of pine with a value of \$4,205,715. Beetle activity in other areas of the state decreased dramatically and other counties which were previously in outbreak status were returned to endemic status.

During the Spring of 1998, 31 counties were trapped for southern pine beetles using pheromone techniques. All counties except for Edgefield and Cherokee indicated a declining - low prediction trend. Edgefield and Cherokee were predicted to have moderate beetle losses.

Early summer surveys revealed little beetle activity statewide. Most infestations in Horry and Georgetown which were not salvaged collapsed due to high insect predation. As of the end of the fiscal year some activity was being reported in Cherokee, York and Edgefield counties. Surveys are planned for that area to determine the extent of any problems.

The Cut & Leave program was activated during the Spring of 1998, but as of June 30, no landowners had applied for assistance. However, contractors were identified and funding was available to perform this activity if needed.

MAJOR DISEASE PROBLEMS

Oak Wilt

Oak wilt disease has been identified in Barnwell, Chesterfield, Kershaw, Lancaster, Lee, and Richland counties. Except for the recent discovery in Barnwell County the disease appears to be static and causing losses only to low value oaks. Since there is potential for loss of valuable trees, including urban trees, periodic surveys are made to evaluate the spread.

Dutch Elm Disease

Dutch Elm disease has been confirmed in Aiken, Anderson, Cherokee, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Kershaw, Lancaster, Laurens, Lexington, Marlboro, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, and York counties. It is expected to gradually spread through the state because the primary agent of spread, the smaller European elm bark beetle, occurs statewide.

Dogwood Anthracnose

In 1988 a new anthracnose disease of dogwood was noted for the first time in South Carolina. This disease is caused by the fungus Discula destructiva. Symptoms include foliage blighting, canker formation and progressive deterioration. Infected trees usually are killed by the fungus in 2-3 years. At this time infected trees have been found in Anderson, Greenville, Laurens, Oconee, Pickens, and Spartanburg counties. As part of a southwide effort, the Forestry Commission has established 19 permanent plots in the counties known to harbor infections of the fungus. The dogwoods in those plots will be monitored periodically to determine the rate of spread of this potentially devastating disease.

MISCELLANEOUS INSECT AND DISEASE CHECKS

Commission foresters made approximately 946 field checks of insect and disease problems and made recommendations for prevention and control. Other inquiries were handled by telephone, mail, and personal contact.

MYCORRHIZAL INOCULATION

A project was continued at Creech Seed Orchard this year to inoculate containerized longleaf seedlings with the mycorrhizal fungus Pisolithus tinctorius (P.t.). Funding was not available to operationally inoculate the seedling crop for this year. However, approximately 80,000 seedlings were inoculated by I&D with sprayed spores.

INSECT AND DISEASE LABORATORY

During Fiscal Year 97-98 the Insect and Disease Laboratory processed 62 samples. These were submitted for analysis by Commission employees and private individuals. Recommendations for control of various pests identified were given where needed.

FOREST HEALTH

The SCFC entered into agreement with the USFS to evaluate permanent Forest Health plots throughout South Carolina. This was done by the Management Section and reported there. As another part of this program, the Forestry Commission also received additional funding for off-plot activity to survey for and report on other forest insects and diseases. A survey for hardwood defoliators performed during the Spring found no significant defoliator activity. Surveys for defoliators and other forest pests will now be done using uniform guidelines and loss reporting.

ENVIRONMENTAL MANAGEMENT

The Environmental Management Section is responsible for the development and implementation of South Carolina Forestry Commission programs that are related to the environmental protection of forest and associated natural resources. Issues that are addressed include the protection of water quality, site productivity, endangered species, and unique ecosystems.

BMP MANUAL

South Carolina's Best Management Practices for Forestry was originally published in March 1994. Copies are distributed to loggers, landowners, and foresters at BMP educational programs and upon individual request. Since September 1997, the BMP committee for braided streams has been meeting regularly to determine if additional BMPs are necessary for use when harvesting in braided stream systems. Draft BMPs addressing braided stream systems have been developed, and comments have been received from the forestry community and state and federal regulatory agencies.

BMP IMPLEMENTATION MONITORING

Compliance with harvesting BMPs has been documented in three previous surveys. Compliance for harvesting BMPs was 84% in 1991, and 90% in 1994. A new survey was initiated in the spring of 1997 to update BMP compliance. Compliance with harvesting BMPs in the 1997 survey improved to 92%. Two hundred sites were located and inspected throughout South Carolina by BMP Foresters. In the winter of 1998, site preparation BMPs were evaluated on the same 200 sites as the first part of a two-year monitoring study. This study will be completed in the winter of 1999, and the resulting data will be analyzed and published during the 1998-99 fiscal year.

BMP EDUCATION/TRAINING PROGRAM

BMP training and education are essential to the success of the Forestry Commission's non-regulatory BMP program. During this fiscal year, thirty-three BMP meetings were held across the state for forest landowner groups, government agencies, and professional organizations. A total of 1,073 people attended these meetings. Included in these meetings were 4 Timber Operations Professional (TOP) workshops, which reached 145 loggers and foresters.

COURTESY EXAM PROGRAM

The S.C. Forestry Commission's BMP Foresters, located in each of the three operating regions of South Carolina, offer courtesy BMP exams to landowners, foresters, and timber buyers. The BMP Forester makes site-specific BMP recommendations to follow while conducting forestry activities. During the 1997-98 fiscal year, the BMP Foresters completed 246 courtesy exams. Of the 246 sites, 237 (96%) were completed in compliance with our recommended guidelines.

ENDANGERED SPECIES

This year, the Environmental Management Section began training on endangered species biology and management, with an emphasis on those species that may impact forestry operations. The BMP Foresters are available to provide information and assistance to SCFC personnel, foresters, and private landowners. This assistance may include site visits, cooperating on the Safe Harbor program administered by the S.C. Department of Natural Resources, and assisting State Forests and other state-owned properties upon request.

MEMORANDUM OF UNDERSTANDING

The S.C. Forestry Commission signed a Memorandum of Understanding (MOU) with the S.C. Department of Natural Resources (SCDNR) to encourage cooperation between the two agencies with regard to BMP compliance. The SCDNR will inform the Forestry Commission of BMP problems located by SCDNR personnel. The Forestry Commission will inform the SCDNR of suspected violations of game, fish, boating, or litter laws, and the two agencies will work together on matters of mutual interest, including legislation, staff training, and public information.

DISPATCH AND FOREST TECHNOLOGY

Through reorganization of the Columbia Office, a Dispatch and Forest technology Coordinator position was established to assist with implementing developing technology in fire dispatching and forest management. Activities will include enhancing computer-aided dispatch software (CADS), upgrading computer hardware, expanding the use of Global Positioning Systems (GPS), computer mapping and Geographic Information Systems (GIS), aerial photography and satellite imagery. This position also serves as a liaison between Computer Services, Field Operations Support, and field personnel on computer-related issues.

EQUIPMENT

The Equipment Section is responsible for development and implementation of statewide programs concerning the use, design and maintenance of specialized forest fire control equipment.

This section is responsible for providing technical assistance and advice to region repair shops, developing specifications for fire suppression equipment and the motor vehicle fleet, and arranging training for all field mechanics.

All regular and specialized fire control equipment is modified and processed for field use at the Commission's Central Repair Shop. The Central Repair Shop personnel makes numerous repairs to Forestry Commission vehicles and equipment and manufactured fire control equipment. The following list is some of the major accomplishments performed by the Central Repair Shop.

- Serviced and maintained vehicles assigned to Columbia Office/Shop Complex
- Provided maintenance assistance to the Region Repair Shops
- Processed new motor vehicle equipment
- Various truck and equipment parts from cannibalized equipment were issued to field shops
- Repaired Body on Lexington Ranger Truck
- Reworked wheel fire plows
- Regions, State Forests, Taylor Nursery, Neiderhof Seed Orchard and Central Repair Shops maintenance facilities were certified by the Division of Motor Vehicle Management.
- The Central Repair Shop prepared and organized the fire suppression equipment for one auction held at its headquarters held in October 1997. The Forestry Commission netted \$188,000.00 that was used to purchase like equipment.
- A balance of \$3,149.32 in the surplus equipment budget will be carried forward for FY 98-99.
- Received \$1.8 Million in recurring funds to purchase fire control equipment.

EQUIPMENT PURCHASED

Coastal Region

Four (4) International Transports (Aiken, Colleton, Hampton, and Jasper Counties)
Six (6) International Truck Tractors (Dorchester, Barnwell, Jasper, Bamberg, Orangeburg, and Beaufort Counties).
Six (6) Boaz Tilt Trailers (Dorchester, Jasper, Bamberg, Orangeburg, and Beaufort Counties)
One (1) Reverse C Frame for Fesco Lift Plow (Colleton County)
Two (2) 1999 Ford 3/4 ton Ext. Cab Trucks (Jasper and Dorchester Counties)
One (1) 1998 Ford Ranger For BMP Position
One (1) 1998 Ford 3/4 ton Truck (Hampton County)
One (1) 1998 Ford 1/2 ton Truck (Aiken County)

Pee Dee Region

Two (2) Crawler Tractors JD450G (Florence and Kershaw Counties)
Six (6) International Transports (Florence, Kershaw, Chesterfield, Horry, and Marlboro Counties)
One (1) International Truck Tractors (Georgetown County)
One (1) Reverse C Frame for Lift Plow (Williamsburg County)
Seven (7) 1999 Ford 3/4Ton Ext. Cabs Trucks (Williamsburg, Marlboro, Sumter, Lee, Kershaw, Clarendon, and Darlington Counties)
Two (2) Lift Whitfield Plows (Florence and Kershaw Counties)
One (1) Chevrolet Blazer Law Enforcement
Two (2) front-mounted winches for Kershaw and Florence Counties Tractors
One (1) 1998 Ford 1/2 Ton Ext. Cab Truck (Lancaster County)

Piedmont Region

Five (5) International Transports (Lexington, Richland, Anderson, Greenville, and Pickens Counties)
Two (2) 1999 Ford 3/4 Ton Ext. Cabs trucks (Chester and Richland Counties)
One (1) Lift Whitfield Plow (Newberry County)
Two (2) Crawler Tractors JD 450G (Edgefield and Fairfield Counties)
One (1) front-mounted winch for Edgefield County Tractor

Sand Hills State Forest

Three (3) 1998 1/2 ton Chevrolet Trucks

Manchester State Forest

One (1) 15 Ton Trailer

Taylor Nursery

One (1) Plymouth Voyager Mini wagon 1998

Neiderhof Seed Orchard

One (1) 3/4 ton 1998 Chevrolet Truck

Creech Seed Orchard

One (1) 3/4 ton 1998 Chevrolet Truck

Columbia Headquarters

Two (2) Ford Ranger Pickups for Forest Inventory Analysis
Central Repair Shop along with field personnel initiated purchasing, fabrication, and organizing the building of truck bodies for the new equipment.

TRAINING FOR MECHANICS

Six (6) attended an Air Conditioning Retro fitting.
Five (5) attended Front End and Under/Truck training
Thirteen (13) attended AC Delco Charging and Cranking System training.
Seven (7) attended ABS Brakes training.
Four (4) attended Preventive Maintenance training on Allison Transmission
Nine (9) attended General Motors, Ford and Chrysler Driveability seminar.
Nineteen (19) attended a session on Preventive Maintenance Checks for JD 450G's.

ADMINISTRATION

HUMAN RESOURCE MANAGEMENT

The Human Resource Management Section administers the following programs for the SCFC:

- Coordination of Total Quality Management efforts
- Employee Relations, to include Progressive Discipline, EPMS, and Grievances and Appeals
- Classification and Compensation, to include performance increases and bonuses
- Job Announcement Postings
- Recruitment
- Employee Benefits, to include Health, Dental, Life, and Long Term Disability Insurance, Employee Wellness, Employee Innovation System, and Tuition Assistance
- Leave, to include Annual, Sick, Leave Without Pay, Family Medical Leave Act, Leave Transfer Program
- Affirmative Action
- Worker's Compensation
- Service Awards
- Retirement, to include counseling and assistance with the process for both service and disability applications
- Personnel Records and Files Maintenance
- Commercial Drivers' License Drug & Alcohol Testing
- Overtime and Fair Labor Standards Act
- Reduction in Force
- Americans with Disabilities Act

PROCUREMENT/INSURANCE

The Procurement Section is responsible for all Commission procurements, either in a review function of field procurements or in procuring the equipment, supplies, and services required by the Commission. Procurement activities include the training of Commission personnel involved in procurement, locating responsible vendors, establishing approved vendor files, advertising and soliciting for quotations, reviewing and awarding contracts and providing contract administration for Commission procurements. The section is the Commission liaison for all procurement requirements handled by the State Procurement Office and conducts the review of the bids received and makes the recommendation of award for the contracts.

The development of written specifications and performance requirements for the specialized forestry equipment and services (uniform program, aerial fire detection patrol and the various nursery contracts) is coordinated and reviewed prior to beginning the actual procurement process. A procurement policy and procedures manual is maintained and distributed to personnel to inform them of the procurement procedures required by the S.C. Consolidated Procurement Code. In March 1997, the Commission received authorization from the Budget and Control Board to increase their certification to \$25,000 per procurement. This approval was a result of audit performance reviews, procurement training received and given by this section, and procurement certification levels of the section personnel. In addition to State Contract purchases and purchases through the Materials Management Office, the section handled solicitations and awards for 65+ procurements totaling in excess of \$465,000.00.

The Procurement Card program utilized by Commission personnel is administered through the section, which also provides training for all approved cardholders. The Forestry Commission was selected as a pilot agency for this program, now in its first year of operation. The Commission has 114 personnel involved in the program. There have been 1,253 transactions (purchases) for \$123,022.72 in the first six months. There have been only five vouchers that had to be prepared to pay for the purchases. The paperwork preparation time and expense for 1,248 vouchers have been eliminated by the use of this program. Further results will be evaluated for the program's economy and efficiency to the State after the first year of use.

The Minority Business Enterprise Utilization Program and the Commission's annual Minority Business Plan is coordinated, developed, and submitted to the Office of Small and Minority Business-Governor's Office for approval.

The Minority Business Enterprise Utilization Program and the Commission's annual Minority Business Plan is coordinated, developed, and submitted to the Office of Small and Minority Business-Governor's Office for approval.

All property (building and equipment), tort liability, fidelity (honesty bond), vehicle and aircraft insurance coverage is the responsibility of this section. The annual review of renewal of insurance, and filing of claims for losses or damage are the responsibility of this section. The Fire and Extended Insurance coverage for buildings and property statewide is \$16,856,200.00 and data processing equipment coverage is \$1,360,000. Three hundred forty-five vehicles are operated and covered with \$500,000 single limit liability coverage. The Commission and employees are covered with \$1,000,000 tort liability insurance coverage.

Establishment of fixed assets records for equipment procured is initiated upon procurement and then coordinated with the Accounting Section. Screening requests for Federal Excess Property acquired through the U.S. Forest Service by the Fire Management Section are reviewed for compliance and then authorized for acquisition.

SAFETY

Statewide

The committees representing Nurseries, State Forests and Columbia Headquarters were reorganized into a single unit. Accident Review Procedure 2804 was rewritten to give Unit Safety Committees/Regional Foresters direct involvement in the process and personnel action. The Coastal Region Safety Officer has a PC and is on line. Asbestos removal was begun in the Headquarters office. Safety officers attended the annual SCOSC meeting. Training and safety were split with a full time coordinator being given responsibility for training.

Coastal region

The region purchased substantial amounts of equipment to outfit (or reoutfit) personnel with personal protective equipment (PPE). This included extra safety gear in the form of first aid equipment (to include disposable CPR mask, and gel for burns). Load-bearing belts and suspenders were purchased to carry canteens, fire shelters, etc. Goggles/safety glasses were purchased and new wildland firefighter gloves meeting OSHA # 3410 requirements were distributed. The Committee published its first newsletter in June to inform region personnel of safety issues. A "safety library" was established with over a dozen safety videos, and associated hand-out literature w/test for Rangers and Areas to check out and utilize in their training.

Pee Dee Region

The region began publication of a quarterly safety newsletter, Safety Zone. Cross-training for all equipment operators on all types of tractors and transports was initiated. Worksite screening was conducted for interested employees. Plexi-glass shields were installed on tractors w/mounted plows to keep dirt and hydraulic oil off operators. Employees received training in proper use of jumper cables.

Piedmont Region

Defensive Drivers training and CPR/First Aid sessions were conducted. First aid kits were replaced. Forklift/industrial truck training was conducted by Ron Fisher of SC DLL&R. Fire extinguisher and fire shelter training was conducted.

State Forests

A big step in increasing safety in the work place for 1997-98 was the initiation of job-specific training in the proper use of equipment and in using efficient and safe procedures to perform specific jobs/tasks.

Nursery and Tree Improvement

Fire Extinguisher and PPE training were held. The safety committee conducted inspections of each facility.

Headquarters/Harbison

Chainsaw, CPR/First aid, Forklift, and Fire Extinguisher training were conducted during the year for Headquarters/Harbison personnel. Leslie Woodham, formerly with SC OSHA, conducted a survey of the Columbia facilities.

Financial Statement

REVENUES

State Appropriations \$19,120,537

Federal Grants \$1,909,769

Earmarked Funds

Hunting & Fishing License	39,763
Burning Assistance Fee	53,224
Fire Lane Fee	79,592
Timber Marking Fee	14,720
Training Conf - Registration Fee	1,600
User Fee - State Park & Forest	22,745
Miscellaneous Fee	3,730
Construction of Water Bar	7,200
Stand By for Prescribed Burning	6,765
Sale of Seedlings	1,073,507
Sale of Timber	1,332,548
Employee Violation Penalty	0
Other Penalties, Costs, Settlements	31,942
Rent - Residence	7,411
Rent - Farm Land	39,620
Rent - State Owned Property	12,480
Rent - Equipment	7,744
Contributions & Donations	682
Insurance Claims	6,489
Sale of Services	57,510
Sale of Surplus Materials	240
Commission-Vending Machines	447
Sale of Junk	465
Sale of Firearms	2,400
Forest Product Assessment	688,273
Capital Reserve Funds	50,000
Sale of Assets	269,065

Total Earmarked \$3,810,161

Total Revenue \$24,840,468

EXPENDITURES

Transferred to General Fund	36,662
State	18,330,086
Federal	1,908,482
Earmarked	4,180,389

Total Expenditures \$24,455,619

EXCESS OF REVENUE O/(U) \$384,849

EXPENDITURES

Expenditures include \$379,007 for Permanent Improvement projects

ECONOMIC AND RURAL DEVELOPMENT

Forest and wood product business development and recruiting as well as rural development assistance is a component of the Forestry Commission's mission. The goal is to maximize the benefits to the state from the forest resource base.

BUSINESS DEVELOPMENT

8 business assists this year resulted in announced new investment of \$128.325 million and creation of 253 new jobs.

67 business recruiting contacts maintained, with 25 contacts initiated this year.

57 existing business development assists provided.

57 requests for technical information or industry directories processed.

Business promotion activities included a South Carolina exhibit at the Woodworking and Furniture Supply Fair in Anaheim, CA. The South Carolina Department of Commerce designated the forest products industry cluster for priority development and assistance was provided to develop a plan of work to assist the industry.

Trade promotion activities included ongoing assistance to South Carolina Export Consortium and participating in trade delegation visit from Gabon and Chile.

RURAL DEVELOPMENT

5 Rural Development program grants awarded to communities and organizations through the USDA Forest Service Rural Community Assistance program administered by South Carolina Forestry Commission.

Rural development activities included sponsorship and participation in Governor's Rural Summit, participation in southeast region Forest Based Economic Development Academy, and continuing to serve as State co-chair of South Carolina Rural Development Council.

INTERNAL AUDIT

The Internal Audit Department is an independent appraisal function that examines and evaluates the adequacy and effectiveness of Commission activities as a service to all levels of Management and the Commissioners. Emphasis is on auditing the agency's activities, processes, systems, and operations to ascertain efficiency in quality services.

During Fiscal Year 1997-1998 the Internal Audit Department coordinated and oversaw the self-assessment process which the Commission conducted. The Commission became involved in the self-assessment process after our Internal Auditor attended the Malcolm Baldrige training for self-assessment. Such training was made possible and paid for by the Quality Network Association. In return, the Association requested those attending to perform an assessment and provide feedback.

After discussing the matter with Management, the South Carolina Forestry Commission agreed to perform a self-assessment to pilot the South Carolina Quality Self-Assessment Process. The criteria utilized mirrored the criteria

established for the Malcolm Baldrige Award. Said criteria were developed by the Center for Education, Quality, and Assessment of the State Budget and Control Board for state government.

The objective for performing the assessment was to gain valuable insight into where the Commission is and where the Commission should be going. By performing the assessment, we gained information from our personnel on the agency's strengths and areas for improvement.

Other activities performed include: an agency-wide audit of Fixed Assets; a follow-up audit of the Coastal Region – Petty Cash Account; an audit of the Taylor Nursery – Petty Cash Account; an audit of the Creech Seed Orchard – Petty Cash Account; year-end physical inventories of stocked uniforms and shop supplies in all relevant locations.

In addition, numerous memorandums were prepared and submitted to Management noting various issues that warranted attention.

INFORMATION AND EDUCATION

The Information and Education Department includes Information Services, Environmental Education, and Harbison State Forest.

In fiscal year 1995-96, the Information and Education Department worked with area foresters in each of the three regions to prepare strategic plans for future I&E efforts. Each plan identified target audiences for forestry information and the most important messages to be communicated to those audiences. Each plan also outlined what region personnel would do to implement the plan and described materials and support I&E would provide. The plans were reviewed in each region after two years and renewed. The majority of the projects and products described below were undertaken to support these strategic plans.

INFORMATION SERVICES

Information Services produces audio-visual and print material for use by schools, Forestry Commission personnel, and the public in general for both educational and training purposes. The department handles public information about forest management subjects and maintains an internet website. Information Services is also responsible for internal communication in the form of a quarterly, tabloid-sized newsletter and a weekly electronic news bulletin.

Major accomplishments:

Landowner Survey:

A survey of new landowners was conducted in the Coastal Region and a report prepared. Names and addresses of 50 owners who acquired land within the past two years were obtained from tax offices in the five areas throughout the region, totaling 250 regionwide. Information Services designed an oversized envelope containing a personalized letter explaining the Forestry Commission's free management exam service, a Forestry Commission Services brochure, and a stamped, addressed return postcard, and mailed the package to each address. Owners who returned the card requesting a free exam were contacted by the Coastal Region Stewardship Forester. Using a grant from the Forest Stewardship Program, we contracted with the University of South Carolina's Institute of Public Affairs Survey Research Laboratory to survey those landowners who did not return cards. The goal of the survey was to determine the level of interest in the Forestry Commission's forest management services among new forest landowners. Results of the survey will be used to plan more effective dissemination of information about forest management services.

Print:

Tree Identification for South Carolina— a guide to the species most commonly found in South Carolina forests.

Gifts of a Tree — a poster, produced in cooperation with the SC Tree Farm Committee, showcasing the products and benefits of trees.

Careers — a color brochure describing career opportunities with the Forestry Commission.

Video:

Prescribed Fire: Planning, Execution, Evaluation — introduction and training in the use of prescribed fire.

S-190 — a four-hour video package for use in rural and community fire department basic wildland firefighting training.

Monthly training: In cooperation with the Training Coordinator, several programs were completed to be used in monthly ranger/warden meetings

Incident Command System Review

Effective Smokey Bear Presentations

South Carolina Forest Fire Laws

Exhibits:

SC State Fair - Columbia

Southeastern Wildlife Exposition - Charleston

Sportsman's Classic - Myrtle Beach

Statewide School Librarians' Conference - State Museum

Permanent outdoor exhibit and signage for former Piedmont Nursery facility
Sandhills Experiment Station exhibit — *How a Tree Grows*
Historic turpentine production exhibit for Harbison State Forest Environmental Education Center
Historic sawmill exhibit for Harbison State Forest
Four outdoor exhibit units and exhibits for Harbison State Forest
Exhibit for annual Fireman's Association convention

Furniture/Signs

10 literature racks for field offices
Bookshelves for Columbia and field offices
Conference table for Harbison
Signs for region and area offices
Picnic tables – Environmental Education Center

Improvements

Pole shed for Harbison State Forest heavy equipment
Roof for I&E and Forest management modular buildings
Handicap ramp for Environmental Education Center
Rails along culverted roads – Harbison State Forest

News Releases: 14

ENVIRONMENTAL EDUCATION

It is the responsibility of the Environmental Education Coordinator to plan, develop, support, and coordinate the Forestry Commission's environmental education effort. The Coordinator oversees the development of Harbison State Forest's Environmental Education center and serves as State Coordinator of Project Learning Tree (PLT) which is an international environmental education program designed for students in pre-kindergarten through high school. Last year SC PLT conducted 33 educator workshops throughout the state to train 673 teachers, and two facilitator workshops that trained 28 new facilitators. In addition, PLT did 7 exhibits and/or presentations at various functions across the state to reach approximately 3600 participants. The Coordinator also represents the Commission on the Coalition for Natural Resource Education and various other committees involved with environmental education throughout the state.

The Assistant Environmental Education Coordinator was instrumental in training and conducting of this year's state Envirothon competition. The Envirothon is a program for high school students to learn more about our natural environment. The Envirothon tests the student's knowledge on topics such as soils, water resources, forestry, wildlife, and current issues. The Assistant Coordinator established contacts and training throughout the state, teaming Commission employees and high school teams in their areas, along with conducting a training session for the teachers and coordinating the forestry part of the competition and test.

The Forestry Commission was also instrumental in organizing the SC Teachers' Tour Coalition, an association of forest industry representatives, state and federal agencies, which conducted the SC Teachers' Tour in Moncks Corner in June of this year. This successful tour provided 20 teachers with a first-hand experience of the forest industry and forest management, and provided them with training, resources and information to conduct lessons dealing with sustainable forestry for their students.

The Forestry Commission continues to be a strong supporter of the Coalition for Natural Resources' environmental education efforts throughout the state. Sixteen foresters were trained to help conduct Teaching KATE (Kids About The Environment) environmental education lessons in forestry at Camp Long in Aiken county and Camp Cooper in Clarendon county. Employees conducted approximately 45 lessons at these camps, serving 870 participants. The Forestry Commission also hosted, and assisted the Coalition in conducting, a two-week graduate level course for nine teachers entitled "Understanding and Teaching about the Environment".

HARBISON ENVIRONMENTAL EDUCATIONAL FOREST

Harbison Environmental Education Forest, located within the city limits of Columbia, contains 2,177 acres. The tract is being managed as a public greenspace to emphasize environmental and forestry education, demonstrate forest management practices and serve as a forest recreational area. The forest is open seven days a week, with estimated annual attendance of 65,000 – 70,000.

Harbison's education staff and other SCFC employees conducted 101 programs this past year, serving approximately 5323 participants. Seventy-two programs were conducted at Harbison, with 2745 participants, and 29 programs were conducted outside of Harbison by the staff, serving approximately 2578 participants. This is a substantial increase in programs from last year, when 53 programs served approximately 2100 participants.

Harbison continues to offer support to the Scouting community. Sixteen Cub Scout programs were held at Harbison, two Girl Scout programs, and one Boy Scout forestry merit badge program conducted by the staff. Approximately 449 scouts and their leaders participated in these programs. Scouts continue to use the facilities at Harbison for camping and other activities. They also give back to the Forest – 8 Eagle Scout projects were conducted on Harbison State Forest during the 1997-98 fiscal year. Scouts built 4 trail bridges, widened 1500 feet of existing trails, installed 22 water bars, installed 4 benches, planted 2,000 seedlings, and constructed a 1600-foot handicapped-accessible trail to fulfill their Eagle Scout requirements. In addition, Cub Scouts performed maintenance on 10 waterbars and installed 7 new waterbars along the trails.

The Harbison Environmental Education Center is a 5000 square foot log building containing three offices, a small conference room, a screened porch, a deck and a 100-seat conference room. The Center is offered free to groups or agencies conducting Environmental Education workshops or classes. Twenty-two environmental education meetings were held at the Center free of charge last fiscal year. SCFC conducted 85 meetings using the Environmental Center at no charge. Sixty-four other groups or agencies used the facilities for a fee. A total of 172 meetings were held in the Environmental Center with 4296 participants. This generated an income of \$9200.

Harbison State Forest contains over 15 miles of roads and trails for bicycling, hiking, jogging and nature study. A permit system for recreational users requires bikers to pay a user's fee and promotes donations from other users. Harbison sold 472 bike permits for an income of \$5915 and received \$418.71 in donations.

A grant was obtained to complete a handicapped accessible trail along the Historic Tree Grove and install a handicapped accessible restroom at the Eagle parking lot/Historic Tree Grove entrance. Also included in this project was the building of a new connecting trail from the West Firebreak trail to the Stewardship trail, and to develop interpretative signage explaining various forestry practices along the Stewardship Trail. Volunteers from the Boy Scouts, local biking groups and Harbison employees have been working to complete these projects by October '98.

Work has begun to install a working sawmill and a railroad steam loader (both of which were donated to Harbison) around the grounds surrounding the Environmental Education Center. This equipment, along with a short fire tower and outdoor classrooms will complement the educational facilities and mission of the Environmental Center.

Two timber sales were held during fiscal year 1997-98. In August 1997, approximately 156 cords were removed during a southern pine beetle salvage operation. Proceeds from this sale amounted to \$781.55*. Bids were opened on May 27, 1998, for a sale involving 181 Mbf of pine sawtimber and 47 cords of pine pulpwood. This sale is adjacent to the Stewardship Loop Road and Stewardship Trail, and includes a 20-acre improvement cut, a 3-acre seed tree cut, a 3-acre shelterwood cut, and 4 acres of overstory removal. Signs on the road and trail will explain the purpose of each type of harvest. Proceeds from this sale were \$56,950.25*, amounting to a total revenue from timber sales of \$57,731.80*.

Two prescribed burns were conducted this winter. A 9-acre area adjacent to the Stewardship Trail, and an 11-acre area near the front gate were controlled burned. The goal of these burns was to improve wildlife habitat, reduce wildfire hazard, and control brush.

Five wildlife food plots were maintained. A variety of species were planted including wheat, clover, vetch, and rye. These food plots should increase viewable wildlife populations.

*Twenty-five percent (25%) of all revenue generated on Harbison State Forest is paid to the county for educational use.

Statewide Information and Education Activities

Exhibits	61
News releases/articles	72
Interviews:	
Television	62
Newspaper	71
Radio	52
Parades	88

Forestry Commission personnel in region and area offices participated in approximately 1,161 educational programs, attended by some 58,000 people.



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South Carolina Forestry Commission Organizational Chart

